

S. HRG. 114-137

**PATENT REFORM: PROTECTING INNOVATION
AND ENTREPRENEURSHIP**

**HEARING
BEFORE THE
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP
UNITED STATES SENATE
ONE HUNDRED FOURTEENTH CONGRESS**

FIRST SESSION

MARCH 19, 2015

Printed for the Committee on Small Business and Entrepreneurship



Available via the World Wide Web: <http://www.fdsys.gov>

U.S. GOVERNMENT PUBLISHING OFFICE
97-416 PDF

WASHINGTON : 2016

For sale by the Superintendent of Documents, U.S. Government Publishing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP
ONE HUNDRED FOURTEENTH CONGRESS

DAVID VITTER, Louisiana, *Chairman*
BENJAMIN L. CARDIN, Maryland, *Ranking Member*

JAMES E. RISCH, Idaho	MARIA CANTWELL, Washington
MARCO RUBIO, Florida	JEANNE SHAHEEN, New Hampshire
RAND PAUL, Kentucky	HEIDI HEITKAMP, North Dakota
TIM SCOTT, South Carolina	EDWARD J. MARKEY, Massachusetts
DEB FISCHER, Nebraska	CORY A. BOOKER, New Jersey
CORY GARDNER, Colorado	CHRISTOPHER A. COONS, Delaware
JONI ERNST, Iowa	MAZIE K. HIRONO, Hawaii
KELLY AYOTTE, New Hampshire	GARY C. PETERS, Michigan
MICHAEL B. ENZI, Wyoming	

ZAK BAIG, *Republican Staff Director*
ANN JACOBS, *Democratic Staff Director*

C O N T E N T S

OPENING STATEMENTS

	Page
Vitter, Hon. David, Chairman, and a U.S. Senator from Louisiana	1
Cardin, Hon. Benjamin L., a U.S. Senator from Maryland	2

WITNESSES

Mr. David Winwood, President-Elect, Association of University Technology Managers, Chief Business Development Officer, Louisiana State University's Pennington Biomedical Research Center, Baton Rouge, LA	4
Mr. Robert N. Schmidt, Co-Chair, Small Business Technology Council, National Small Business Association, Fort Meyers, FL	23
Tim Molino, Director, Policy, BSA The Software Alliance	40
Ms. Rachel King, Founder & CEO, GlycoMimetics, Chair of the Maryland Life Sciences Advisory Board, Gaithersburg, MD	48
Mr. Craig Bandes, President & CEO, Pixelelligent Technologies, Baltimore, MD	57

ALPHABETICAL LISTING AND APPENDIX MATERIAL SUBMITTED

American Continental Group, Inc.	
Chart titled "Litigation Rate 1991–2014"	114
American Hotel and Lodging Association	
Statement dated March 19, 2015	75
Application Developers Alliance on Patent Reform	
Statement dated March 19, 2015	77
Association of American Universities	
Letter dated March 2, 2015	80
Association of Public and Land-grant Universities	
Statement dated March 3, 2015	81
Bandes, Craig	
Testimony	57
Prepared statement	60
Responses to questions submitted by Chairman Vitter and Senator Booker	164
Big Ten Since 1896	
Letter to Senator Cardin dated January 21, 2015	82
Biotechnology Industry Organization	
Statement dated March 3, 2015	84
Cardin, Hon. Benjamin L.	
Testimony	2
Engine	
Statement of Julie Samuels, Executive Director	85
Patent One Page Executive Summary 2015	87
Patent White Paper 2015	88
Innovation Alliance	
Statement dated March 3, 2015	97
Institute of Electrical and Electronics Engineers (IEEE–USA)	
Letter to Senator Coons dated March 4, 2015	98
Kappos, David J.	
Report titled "The Great Patent Debate: Changing Horizons"	99
Report titled "An Overview of the United States Patent System, 2015"	114
King, Rachel	
Testimony	48

IV

	Page
—Continued	
Prepared statement	51
Medical Device Manufacturers Association	
Statement	116
Molino, Tim	
Testimony	40
Prepared statement	42
National Association of Home Builders	
Statement dated March 19, 2015	118
National Association of Realtors	
Letter dated March 17, 2015	122
National Retail Federation	
Statement dated March 19, 2015	124
National Venture Capital Association	
Statement dated March 3, 2015	133
Pharmaceutical Research and Manufacturers of America	
Statement dated March 3, 2015	134
Schmidt, Robert N.	
Letter dated March 4, 2015	16
Letter dated March 13, 2015	20
Testimony	23
Prepared statement	25
Responses to questions submitted by Chairman Vitter	148
Startup Investors	
Letter dated March 17, 2015	135
Vitter, Hon. David	
Testimony	1
Winwood, David	
Testimony	4
Prepared statement	7

PATENT REFORM: PROTECTING INNOVATION AND ENTREPRENEURSHIP

THURSDAY, MARCH 19, 2015

UNITED STATES SENATE,
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m., in Room 428, Russell Senate Office Building, Hon. David Vitter, Chairman of the Committee, presiding.

Present: Senators Vitter, Risch, Gardner, Ernst, Cardin, Cantwell, Shaheen, Booker, Coons, Hirono, and Peters.

OPENING STATEMENT OF HON. DAVID VITTER, CHAIRMAN, AND A U.S. SENATOR FROM LOUISIANA

Chairman VITTER. Let's go ahead and get started.

Good morning and welcome, everybody, and welcome to our hearing on "Patent Reform: Protecting Innovation and Entrepreneurship."

I want to thank our panel of witnesses for taking time away from their jobs and, in many cases, making the trip to Washington for this important hearing. We look forward to your testimony.

As many in this room are aware, there is a growing call for the Senate to act swiftly and make patent reform legislation a priority for floor consideration once committees have done their work.

Today, we are here to answer a sole question: How do we address patent reform while protecting innovation and not impose negative consequences on small businesses and entrepreneurs? It is important to ensure that any bill that moves to the U.S. Senate floor achieves this goal.

Certainly, we want to combat frivolous lawsuits and patent trolling, but we also want to maintain a level playing field for small business investors and large companies alike.

Patent jurisprudence has changed considerably over the past three years, and there are ample ongoing changes to the patent system which are still being implemented.

Protecting small business and safeguarding those innovations is the responsibility of this Committee, not to mention the bedrock of the American entrepreneurial spirit.

Similarly, it is essential to remember that many legitimate owners of intellectual property do not manufacture anything but, nonetheless, have very important legitimate claims of patent infringement against other parties. These include independent inventors, research and development companies, and universities, who all

qualify as nonpracticing entities. Therefore, Congress should act decisively, but it should also act with prudence.

We have heard pleas from businesses across the board that the patent system is increasingly becoming a forum for financial speculation and litigation rather than innovation. American innovators and small businesses across the country are being forced to divert critical resources to defend themselves against vague claims of patent infringement, resulting in substantial drains on our economy.

Main Street businesses using off-the-shelf technology need to be protected against frivolous demand letters and suits. This must stop, but it would be similarly disturbing if we uprooted a major portion of the U.S. economy to address harmful behavior from a few bad actors.

The discussion surrounding patent reform must include a detailed analysis of how legislation would further impact small businesses, investors, and universities.

And as chair of this Committee on Small Business and Entrepreneurship, I certainly feel an obligation to highlight that our patent system fuels the economy.

Unfortunately, many businesses have seen some bad actors, and patent abuse by bad actors certainly wastes vital funds that could otherwise go to productive activity. It is this reason that I fully support bringing the patent discussion forward to address specific targeted legislative fixes as long as that discussion carries the necessary protection for smaller businesses and startups.

Unfortunately, when dealing with bad actors, there is very rarely a one-shot solution. I have seen disturbing efforts that, in an attempt to demonstrate a greater level of “growing abuse,” lump innocent, well-intended business suits in that of trolling.

So legislation should not have the effect of allowing one group to strong-arm another smaller group simply because of immediate access to resources. Efforts to unbalance the system using misguided information will ultimately lead to less prosperity in our system.

Licensing one’s patents is not a bad thing. It is for that reason I believe the discussion deserves the necessary room to include what the legislation’s further impacts will be on small businesses and investors and universities.

And so it is my hope that today with our witnesses and experts across the spectrum, we can discuss how best to balance a path forward. And I certainly look forward to carrying this issue and discussion on as a member of the Senate Judiciary Committee as well.

With that, let me turn the mic over to Senator Cardin.

OPENING STATEMENT OF HON. BENJAMIN L. CARDIN, A U.S. SENATOR FROM MARYLAND

Senator CARDIN. Well, Chairman Vitter, first of all, thank you for convening this hearing. This is our first committee hearing here in Washington of the Small Business and Entrepreneurship Committee of this Congress, and I want to thank Senator Vitter and his staff for the cooperative arrangements that we have in putting together this particular hearing.

It is very interesting; there are lots of committees in the Congress that deal with issues that affect small business.

The Finance Committee deals with the tax code, and there is major impact on small businesses.

The Environment and Public Works Committee deals with the regulatory environment for an environment that affects small business.

The Banking Committee deals with the financial systems in this country that affect small business.

And the Judiciary Committee deals with pensions and pension laws that affect and patent laws that affect—excuse me. They deal with patent laws that affect small businesses.

Only this Committee focuses on the small business community, and it is very appropriate that we have a hearing dealing with the impact of these policies as they affect small business. So, Mr. Chairman, I am very pleased that we are having this hearing to deal with patents so that we can take a look at the impact it has on small business.

We are trying to balance two different thoughts on how the patent system is working. We have our universities and large biotech companies that have one view, and we have smaller companies that have different views.

And I would hope that we could harmonize those views. That may be asking a little bit too much, but I think this hearing can help us in trying to figure out how is the best way to deal with these conflicting roles.

The role of small business is critical to the dialogue on patents. Small business produces 16 times more patents than larger businesses. And the ability of entrepreneurs to obtain patents often acts as a precursor to investors' willingness to provide funding at critical stages.

An effective and functioning patent system is critical to the economic growth of the United States. Intellectual property has been a fundamental source of American innovation and economic prosperity since our nation's founding.

Of late, there have been many efforts to improve the system. The administration issued a series of executive actions, and Congress passed the America Invents Act in 2011, which put in place our First-to-File system, procedural changes, fee revisions, and post-grant review.

I look forward to hearing from today's witnesses as to how those reforms and executive actions are working in practice, the impact it has on businesses in our community.

I also look forward to hearing from our witnesses about their experiences with the patent assertion entities, also known as patent trolls. Small businesses are particularly vulnerable, as the chairman pointed out. They do not have the deep pockets. They are particularly vulnerable to claims that their work is invalid or requires significant investment of time and money to litigate.

Research institutions also play a significant role in the patent arena. University-owned research labs spur innovation by transferring patentable inventions developed in their labs to the private sector for commercialization as new technologies.

In the State of Maryland, I have seen how technology transfer programs at the University of Maryland, the National Institutes of

Health, the Johns Hopkins University have had to stimulate growth in my State; indeed, in the entire country.

Nationwide, similar programs have generated hundreds of billions of dollars of economic activity and three million jobs in the past three decades alone.

So, Mr. Chairman, this is an issue that this Committee is ideally suited, I hope, to find a common ground. The Small Business and Entrepreneurship Committee has had a reputation of working in a bipartisan way to help small business, and we will be challenged in this area, but I think today's hearing can help us find a way forward.

I am very impressed by the witnesses that we have before us, and we look forward to your testimony and helping us understand how the current system is working, the challenges we have, how we can balance innovation moving forward, protecting intellectual property of creative people but also allowing companies to be able to move forward in more discoveries for the benefit of our economy.

Chairman VITTER. Great. Thank you, Ben.

We do have five great witnesses. I am going to introduce the first three before each of their testimony, and then Senator Cardin will introduce the remaining two.

First, we will hear from Mr. David Winwood, President-Elect of the Association of University Technology Managers and Chief Business Development Officer of LSU's Pennington Biomedical Research Center.

Prior to his current position, David served in research, business development, and company leadership roles in three startup businesses.

Welcome, David, and please proceed.

STATEMENT OF DAVID WINWOOD, PRESIDENT-ELECT, ASSOCIATION OF UNIVERSITY TECHNOLOGY MANAGERS, AND CHIEF BUSINESS DEVELOPMENT OFFICER, LOUISIANA STATE UNIVERSITY'S PENNINGTON BIOMEDICAL RESEARCH CENTER

Mr. WINWOOD. Thank you, Mr. Chairman.

Chairman Vitter, Ranking Member Cardin, committee members, I am grateful for the opportunity and privilege to testify today.

I am President-Elect of the Association of University Technology Managers, AUTM, a nonprofit organization dedicated to enhancing the global academic technology transfer profession, and as mentioned, I am also the Chief Business Development Officer of Louisiana State University's Pennington Biomedical Research Center in Baton Rouge.

The Center's mission is to discover the triggers of chronic diseases through innovative research that improves human health across a life span.

Well, university research has brought huge benefits to the American economy, national security, and health care. An independent survey released just this week indicates that since 1996 academic industry patent licensing has contributed up to \$1.18 trillion to the U.S. economy, bolstered U.S. GDP by up to \$518 billion, and supported up to 3.82 million U.S. jobs.

In that same 18-year period studied, AUTM reported the creation of more than 4,200 startup companies based on academic and non-profit research.

And, in 2013 alone, AUTM reported 24,000 inventions from academic research, inventions that helped launch 719 new products and served as the basis for the creation of more than 800 startup companies.

The Bayh-Dole Act in 1980 helped unleash the power of the patent and provided a framework in which universities are encouraged to engage with corporate partners to take inventions from the lab to the marketplace. Under Bayh-Dole, universities exercise a preference for licensing to small entities, including startup companies.

Now Congress has been a partner with universities by funding the basic research that industry no longer performs, and the process by which federally funded inventions are moved to the market has been refined and improved as the technology transfer profession has matured over the years.

Patenting is a complex, lengthy, unpredictable, and expensive process. Yet, it is crucial for the commercialization of most inventions, with patents often being used effectively as collateral to attract early stage investments to allow commercialization to proceed.

And certainly, Chairman, the innovative proof of concept funding program recently implemented by the LSU Board of Supervisors to turn LSU research into companies and products requires evidence of IP protection before funding is approved.

But there is a real concern among universities and small businesses regarding the sweeping changes to the U.S. patent system that some in Congress are advocating in bills such as H.R. 9., a concern that our efforts to fill a vital role in the innovation ecosystem will be stifled.

Fee-shifting and joinder provisions proposed in the pending legislation could effectively exclude universities and our licensed startup companies from enforcing our legitimate patent claims, resulting in significant losses to the entrepreneurial and innovation ecosystem that propels the U.S. economy.

Now going to court is always a last resort for patent holders, but if going to court becomes too risky then patents will lose their value to licensees and to investors. We believe the investment community would clearly be much less inclined to risk-making, early stage funding commitments, including to startups, if H.R. 9 became law.

Now the university community understands the concerns of lawmakers and industry groups regarding what has become known as the patent troll issue. Indeed, in a February 2015 press release, six higher education associations commenting on H.R. 9 clearly stated that our associations want Congress to pass legislation this year that would put an end to the abusive behavior of patent trolls.

But in saying that, we mean a targeted, narrow approach that focuses on the abusive behavior, such as that recently proposed by Senator Coons in the STRONG Act, which is aimed at protecting small businesses, universities, and entrepreneurs from abusive patent litigation, addressing the problem but without the negative side effects the other legislation might cause by impeding legitimate

patent holders from enforcing their patent rights. So we are happy to work with Congress toward that end.

At AUTM, we see a broad landscape as having changed over the past year or so. The Supreme Court has issued rulings giving judges more discretion to assess legal fees to losers in litigation if the judge believes the case is unjustified. The FTC has recently pursued a patent troll who sent out misleading demand letters to hundreds of small retailers, and the Commission says it plans to do more. And, the PTO itself has new procedures in place that are helping remove bad patents before they ever get to trial.

So, in closing, I would urge this Committee to express itself to the Senate Judiciary Committee and raise these concerns as that committee begins to work on its own version of patent litigation reform because we simply cannot allow overzealous pursuit of trolls to take the American patent system out of reach for universities, small businesses, and small inventors who are counting on you to protect them from legislation that overreaches.

So I thank you for providing the opportunity for us to make these comments, and I will be happy to answer questions.

[The prepared statement of Mr. Winwood follows:]

Testimony of David Winwood
President-Elect, Association of University Technology Managers
Chief Business Development Officer, Louisiana State University's Pennington
Biomedical Research Center
Before the
Senate Small Business and Entrepreneurship Committee
March 19, 2015

Chairman Vitter, Ranking Member Cardin, Committee Members, I am grateful for the opportunity and the privilege to testify today.

I am the President-Elect of The Association of University Technology Managers, which is a nonprofit organization dedicated to bringing research to life by supporting and enhancing the global academic technology transfer profession through education, professional development, partnering and advocacy. AUTM's more than 3,200 members represent managers of intellectual property from more than 300 universities, research institutions and teaching hospitals around the world as well as numerous businesses and government organizations. Since 1990, AUTM has collected detailed data related to the licensing activities of the home research institutions of its members.

I am also the Chief Business Development Officer of Louisiana State University's Pennington Biomedical Research Center. The Center's mission is to discover the triggers of chronic diseases through innovative research that improves human health across the lifespan.

I am here today to talk to you about the importance that patents and academic technology transfer play in company formation, job growth, economic development, and ultimately the new products and services that make our world better.

It seems quite appropriate first to quote from Abraham Lincoln, speaking in 1860:

"Next came the patent laws. These began in England in 1624, and in this country with the adoption of our Constitution. Before then any man [might] instantly use what another man had invented, so that the inventor had no special advantage from his own invention. The patent system changed this, secured to the inventor for a limited time exclusive use of his inventions, and thereby added the fuel of interest to the fire of genius in the discovery and production of new and useful things."

Lincoln signed the Morrill act into effect in 1862. The Act provided firm expectations and positioned many of our leading public universities to create the basic framework for development of the nation's infrastructure, education and research into those areas needed to forge a new country by pushing the frontiers of knowledge in science, engineering and agriculture. Even before the advent of the Morrill Act, universities played a key role the innovation ecosystem of the United States.

Today, our research universities play an even more vital role in creating a better future - not only by educating close to 600,000 graduate students in science and engineering every year, but also, and critically,

by performing more than 15% of U.S. R&D in 2011 - and according to 2012 NSF data, accounted for the majority (53%) of national basic research. This research, some basic, some applied or 'translational' creates new technologies, new products and services, medicines, diagnostics – the list is long and impressive – but also, this research gives rise to entire new industries.

My perspective today is based on my own experience in the field, which includes twelve years on the ground floor as an employee – not as an attorney, but originally as a scientist - for three different startup companies - two of which originated in a university, one of which provided early stage development of what is today an approved and marketed prescription drug for ocular inflammation and allergies, Lotemax, sold by Bausch & Lomb.

Since leaving employment in startup companies and joining the academic technology transfer community, I am now in my twentieth year helping to move technologies into the commercial world from universities across the United States including North Carolina, Alabama, Ohio, and now, I am pleased to say, Louisiana. I have been fortunate to have worked with some of the most creative minds in our university community. During this time, I have led teams that have managed more than 2,300 inventions, executed more than 500 license agreements and participated in the creation of and licensing to 73 new startup companies. More than 60 new products have become available on the market based on the university technologies licensed by my teams during my time at these institutions.

The products commercialized by new or emerging companies that licensed technologies from my employing institutions encompass a wide variety of inventions, including: new semiconductor manufacturing methods; approaches to keep fruits & plants fresh during shipping; new LED lighting materials; new crop varieties; innovative food science manufacturing techniques; environmentally friendly dry cleaning; medical devices; and cyber security applications. While these startup companies obviously address a very diverse set of industries and products, one thing is constant across all of the industries and technologies listed – the crucial and utter importance of intellectual property on the company's ability to attract investment to grow a basic discovery made at a university into a fully-fledged company. Only in this way do the research investments and endeavors provide economic impact – including benefits to society and a valid return to the national investment made in basic discovery science.

How does this transformation from basic research into new products or new industries take place? Certainly not in a vacuum. Generally, academic technology transfer has three main steps: invention conception and evaluation, protection, and commercialization. Let's look at each of these steps one at a time:

Invention Conception and Evaluation

U.S. Universities, Hospitals, Research Institutes, and Federal Labs are hotbeds for innovation. In 2013 alone, AUTM reported that those U.S. institutions accounted for over 24,000 inventions that resulted from \$65 billion in research expenditures – with almost \$40 billion coming from federal sources¹. A rigorous analysis of those 24,000 inventions by technology transfer offices examining such aspects as marketability and protectability identified a subset of those inventions that were commercially promising.

Protection

Once the inventions are evaluated, intellectual property protection of various types is sought for promising inventions including copyright, trademarks, and most frequently, patents. In 2013, AUTM reported on the filing of approximately 15,000 new patent applications.

This patenting step is absolutely crucial for the commercialization of inventions. In the absence of a strong intellectual property system – specifically patents – most of those inventions will never see the light of day. Why is that? The answer is quite simple – the cost to develop those inventions to a marketable product are significant and in the absence of intellectual property protections that the patent system provides, no one will ever invest in the promise of an invention. Said another way, how many of you would invest in a company that will spend tens to hundreds of millions of dollars on a product knowing that a competitor will be free to offer the same product at a fraction of the cost since they invested substantially less in R&D? So in the end, although \$65 billion is invested in research at leading institutions around the country, the fruits of that labor will wither on the vine in the absence of a strong patent system. Seeking patent protection is but the start of a complex, lengthy, unpredictable and expensive process, yet it is fundamental and crucial to establishing and building value in the initial investment in basic research.

Commercialization

Ultimately, it is the translation of those inventions and patent-protected innovations to products and services that is the ultimate goal of university technology transfer offices worldwide, and judging by the latest data, we have been successfully doing just that. In 2013, we reported 719 new commercial products being available and the net product sales arising from research at U.S. Universities, Hospitals, Research Institutes, and Federal Labs exceeded \$22 billion dollars annually. To clarify, that revenue was received by the various licensees of our various inventions, *not* by our institutions – either existing companies or some of the many start-up companies that arise from University research. In fact, 818 startup companies arose from those institutions in 2013 alone and 3,441 in the last five years. Not all of those companies will survive, but some will and will follow in the footsteps of other startup companies arising from University research such as Cree Incorporated, out of North Carolina State University – now a market-leading innovator of lighting-class LEDs, LED lighting, and semiconductor solutions for wireless and power applications.

One of the very attractive ways that university technology transfer officers fulfill their role is by working, usually with local entrepreneurs, to establish new companies to develop a product or service incorporating a university-owned patent.

Indeed, as mentioned, data from the AUTM survey show that startup company formation from US universities and other research institutions has been robust for the last several years, rising from 651 in 2009 to 818 in 2013 – this for a combined 5 year total of 3,441 startup companies initiated from university licensing activity.

Of the 818 startup companies mentioned above, 611, or around 75%, had their primary place of business in the licensing institution's home state. This percentage has remained fairly constant over the last two decades, lending credence to the notion that our universities help to establish entrepreneurial ecosystems that benefit their regional economies.

In fact, over the almost 25 years that AUTM has been collecting licensing data, we can count 4,206 companies started from university licensing activities that are still active and operating at the end of 2013.

Most of these are companies which are more resistant to "off-shoring" – in large part because they enjoy the benefits of US patent protection as a core asset.

In addition, and in keeping with requirements under the Bayh-Dole Act, universities exercise a preference for licensing to small entities, including startup companies, who with their limited resources, are not in a position to engage in substantial patent litigation.

AUTM survey data show there are close to 10,000 patented products currently being sold that originated in academic research laboratories.

Most often, a startup company's sole asset is a patent application or issued patent, upon which the company's fortune lays. Our historically strong patent system has provided some limited comfort for our entrepreneurs to pursue these risky endeavors. Sometimes they fail, sometimes they are wildly successful but in the absence of a robust patent system, these innovations most likely never would have progressed any further than the inside of an inventor's laboratory.

The continuum of building value from research investment to commercialization is evident in several successful programs at both federal and state levels. The SBIR and STTR programs, started in 1982, were very useful to the first startup company in which I worked. The SBIR program was created to boost innovation by providing federal funds to drive national priorities. In the words of program founder Roland Tibbets:

"SBIR was created to address a need that is still critical: to provide funding for some of the best early-stage innovation ideas – ideas that, however promising, are still too high risk for private investors, including venture capital firms"

The STTR program explicitly *requires* involvement of an academic partner – highlighting the close relationship between academia, startup company formation and growth.

In Louisiana, the state provides up to a 40% refundable tax credit on qualified research expenditures incurred in the state. Louisiana is among only a handful of states that offer this type of incentive for SBIR/STTR award recipients. Over the past six years, the universities in the LSU system have produced a number of startup companies commensurate with or greater than predicted based on their research expenditures.

At the state level, similar investments have been made with the goal of leveraging basic university research and helping to turn the output into new companies and industries. For example, in Louisiana, the LSU LIFT2 program was created by the LSU Board of Supervisors in January 2014 to help "Leverage Innovation for Technology Transfer" across all the campuses of the LSU system. Grants are awarded to faculty on a competitive basis twice a year, in amounts up to \$50,000, to validate the market potential of their inventions. The LSU Board of Supervisors has already committed \$4million to this initiative. The Louisiana Board of Regents is currently evaluating the creation of a statewide competitive proof of concept fund modeled closely after LSU's LIFT2 program.

A constant for successful applications to any of these programs is that reviewers must be convinced that meaningful and strong intellectual property protection will be available for funded projects. To invest

absent this expectation – and indeed requirement – would be poor use of national and institutional resources.

Access to intellectual property may be a necessary component for the growth of technology based companies from our universities – but it is not sufficient. It is also crucial that it is possible to enforce the rights embodied in the intellectual property - rights granted to the owner under the US constitution.

This is a key concern for universities and small businesses as we observe the proposed sweeping changes to the US patent system that some in Congress are advocating.

One might ask - if the path to patenting is so perilous and expensive, why should universities participate?

As stated eloquently by Jacob Rooksby recently:

"A patent issued to a university represents years of costly research investment by taxpayers and faculty, and thousands of dollars of human capital by the university's TTO and patent counsel."

"A university's failure to enforce one patent when warranted sends a signal to industry that it may not be willing to enforce other patents it owns. Many – if not most – companies will feel no obligation to take a license to a university's patent when they perceive no consequence for declining to take a license."

And:

"Most universities are 'reluctant participants' in infringement lawsuits. Universities primarily are in the business of innovating, not litigating, and most would like to keep it that way."

Recently introduced bills, such as the Innovation Act, H.R.9 present real cause for concern to universities in our efforts to fill a vital role in the innovation ecosystem.

Universities are indeed in the business of innovating – as they have been since before the Morrill Act – and not litigating; but if universities fail to enforce – or as may be the case if some of the sweeping legislation currently under consideration becomes law, are *unable* to enforce their legitimately granted patent rights then it is a poor use of the university's (and taxpayers') investment and sends the wrong signal to investors and industry – namely, that university licenses are worthless. In particular, H.R.9 would have the dual effect of making it more costly and risky for universities and for our startup companies to litigate and would impose various financial liabilities upon those universities for lawsuits that they decline to pursue for financial, prudential, or other reasons.

The dual specters of fee shifting and joinder provisions proposed in pending legislation give significant cause for concern that if enacted, universities – and their licensed startup companies – would be effectively excluded from enforcing legitimate patent claims. This, we believe, would result in significant losses to the entrepreneurial and innovation ecosystem that has for so long propelled the US economy.

On fee shifting, former USPTO Commissioner Kappos recently stated that:

"Federal courts have always had the discretion to award attorney fees to the prevailing party in exceptional cases, although historically they rarely used that discretion. Last term's Supreme

Court decisions in Octane Fitness v. Icon and Highmark v. Allcare have required that courts grant such awards more readily and that these awards be afforded greater deference on appeal"

The matter of joinder is equally troubling – by allowing the inclusion of additional parties into a lawsuit, likely in an involuntary manner, universities may be seen as particularly appealing candidates for joinder, as the perception exists that they have a greater ability to pay damages than do many of the startup entities to which we license our technologies.

We believe that this situation would significantly limit opportunities for startup company formation & licensing. We have heard clearly that the investment community – recall that most of our startups are initially funded by friends, family and angel groups - would be much less inclined to risk making early stage funding commitments including to startups, as the Innovation Act's joinder provision applies to everyone with an interest in a patent and not just 'trolls'. As such, joinder could include universities & their inventors – faculty members, post docs, students and staff.

Together, fee-shifting and joinder militate against legitimate, good faith university patent enforcement.

OUTCOMES

We are fortunate to have been able to partner with our colleagues in BIO – the Biotechnology Industry Organization – to obtain detailed economic analysis of the impacts of university technology licensing.

Several prominent economists recently updated a study to evaluate the impacts of academic technology licensing.

Highlights include the following observations:

Using an input output "I-O" approach to estimating the economic impact of academic licensing, and summing over the 18 years of available data for academic U.S. AUTM Survey respondents, the total contribution of these academic licensors to gross industry output ranges from \$282 billion to \$1.18 trillion, in 2009 \$US Dollars; contributions to GDP range from \$130 billion to \$518 billion, in 2009 \$US Dollars.

Estimates of the total number of person years of employment supported by U.S. universities' and hospitals' and research institutes' licensed-product sales range from 1,130,000 million to over 3,824,000 million over the 18 year period.

A long term trend is that other nonprofits, as well as universities, are performing a larger share of total U.S. R&D.

The Challenge

The university community is not oblivious to the concerns of many lawmakers and industry groups regarding what has become known as the 'Patent Troll' issue: indeed, in a February 5, 2015 press release, six higher education associations (AAU, APLU, AAMC, ACE, AUTM & COGR) commenting on the Innovation Act, (H.R.9) stated:

"To be clear, our associations want Congress to pass legislation this year that would put an end to the abusive behavior of patent trolls. However, such legislation should promote, not discourage,

technology transfer. And it must sustain our fair and strong patent system, which is the envy of the world. We believe that Chairman Goodlatte's bill has the potential, if properly redrafted, to accomplish this goal. We look forward to working with him to achieve such a positive outcome for patent holders and the American public."

We believe that among the current legislation offered for consideration, H.R.9 has great potential to break the established and well-functioning value chain from basic discovery research funding in our universities to translation and commercialization incorporating small business partners – and perhaps to do so irreparably. Invariably, these small businesses rely on robust patent protection as leverage to allow them to secure the financing necessary to grow their operations. Many of these small businesses in turn rely on universities as their source of licensed intellectual property. If both small businesses and universities are excluded from participation in the patent system, the consequences for future growth and innovation are bleak.

In contrast, we believe that legislation recently proposed by Senator Coons (the STRONG Patents Act of 2015), appears to address problems that may currently exist in regards to abusive patent legislation – typically involving the issuance of threatening, vague and often fraudulent demand letters to small businesses – by targeting the bad actors responsible for such activity with great specificity. Rather than attempting to wreak widespread changes to the US patent system, we support the targeted approaches in the STRONG Act aimed at protecting small businesses, universities and entrepreneurs from abusive patent litigation without unnecessarily burdening these crucial drivers of our innovation economy.

We believe that there is concrete evidence today that contradicts the arguments regarding massive increases in patent litigation made by many supporters of sweeping patent reform included in H.R.9, and nominally targeted at 'patent trolls'. Former USPTO Commissioner David Kappos recently stated quite plainly:

"...every credible study of 2014 patent litigation trends has reported that, from 2013 to 2014, there was a roughly 18% decline in the total number of patent suits nationwide."

Mr. Kappos also points out that:

"....adjusting for procedural changes of the America Invents Act, patent litigation at the end of 2014 was actually commensurate with 2009-2010 levels. And in a recent comprehensive study of 2014 trends, it was revealed that the number of litigants in new district court patent cases declined over 23% from 2013 to 2014, down to 16,089—the lowest level since 2009."

"...All this data taken together screams that the AIA is working, and that whatever further tinkering is needed, it should take a light touch."

We support the development and implementation of approaches targeting bad actors but leaving intact the US patent system – the global benchmark – so that our universities and small businesses may continue to participate and provide opportunities for technology and innovation based growth.

Thank you for providing the opportunity for us to make these comments.

I will be happy to answer questions either now or later at david.winwood@pbrc.edu or by telephone on 225 763 2619.

Chairman VITTER. Great. Thank you very much.

Next, we have Robert N. Schmidt, Co-Chair at the Small Business Technology Council and also with the National Small Business Association.

For the past 25 years, Bob has been founding and growing companies in the medical device and aerospace fields. He is a professional engineer, an attorney, and specifically, a patent attorney. He has 31 patents to his name, and the 5 companies he has founded control over 160 U.S. patents and applications plus additional foreign patents.

And also, one of the groups, Bob, as part of the National Small Business Association, along with its coalition partners, recently sent a letter to Representatives Goodlatte and Conyers and Senators Grassley and Leahy, imploring Congress to slow down and fully consider that legislation.

And so I want to move that we make that part of the record. Without objection, so ordered.

[The information follows:]



March 4, 2015

The Honorable Bob Goodlatte
Chairman
Committee on the Judiciary
U.S. House of Representatives
Washington, DC 20515

The Honorable John Conyers
Ranking Member
Committee on the Judiciary
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Goodlatte and Ranking Member Conyers,

We write to you as members of the Alliance of U.S. Startups and Inventors for Jobs (USIJ). The USIJ is a diverse group of Silicon Valley-based inventors, entrepreneurs, venture capitalists, startup companies, incubators and research institutions. We have come together in the interest of safeguarding our nation's innovation ecosystem.

The research and development that our companies and institutions do has led to numerous breakthrough technologies in fields including medical devices, drug products, clean tech, mobile technologies and cloud computing.

Our entrepreneurs, venture capital members and incubators have – for many years – founded and financed dozens of companies that have created billions of dollars of value and thousands of jobs.

We invent real things and create real companies, and we are concerned that efforts to reform the patent system in the U.S. will harm our ability to lead the world in both of these things. This would be a huge loss for the entire U.S. innovation ecosystem and our global competitiveness.

If Congress makes it more difficult and expensive to protect the intellectual property we create, less will be created. It is that simple. We rely on a strong patent system that allows us to both effectively enforce our property rights, and efficiently defend ourselves when larger competitors make claims against us. Unfortunately, H.R. 9 – the Innovation Act, would make it nearly impossible for venture-backed startups to do this and only seems designed to benefit large, entrenched companies.

U.S. Startups and Inventors for Jobs
usij.org

The importance of strong and reliable patent protection for venture-backed startups in innovative industries such as medical devices, drug products, communications and IT cannot be overstated. Indeed, a recent MIT study on the success of Silicon Valley noted that one of the top indicators of success is, “*Startups that get control over their intellectual property in their first year through patents.*”¹

We were very concerned that a recent House Judiciary Committee hearing on H.R. 9 gave short shrift to concerns raised by the National Venture Capital Association (NVCA). We share the same concerns as the NVCA and, as VCs, entrepreneurs and venture-backed startups ourselves, it was disappointing to see some on the Committee question the motivations of NVCA. The potential gravity of the changes to the U.S. patent system deserve a serious conversation where all stakeholders’ views are respected.

We understand the various patent reform proposals found in the Innovation Act are designed to address abusive behavior that has led to expensive litigation and deceptive practices by those who have made a business out of patent litigation. But for those of us who have made a business out of invention and creating companies, they could have a devastating effect.

The Innovation Act contains several core provisions that, taken together, would significantly harm venture-backed startups.

The bill’s mandatory delay of essential discovery until late in the trial process forces all parties to spend money and time before they know the essential merits of their case. This is extremely risky for a small company which would be forced to spend a tremendous amount of money (even in a case with a high probability of success) because the critical information to determine the merits of the case will not be available to the startup.

In addition, the Innovation Act’s threat of mandatory fee shifting radically escalates the risk and expense to startups. The Innovation Act’s fee shifting provision will add an additional stage at the end of every patent trial in the U.S. that will deter plaintiffs and defendants from aggressively defending themselves. It will force many small businesses to settle prematurely when facing a large company or well-funded non-practicing entity on the other side. These entities can handle an expensive trial and the threat of mandatory fee-shifting, while most venture-backed startups cannot. This provision will not impact large corporations or well-financed NPEs, but it may very well make pursuing legal recourse for infringement or defending against alleged infringement financially ruinous for many venture-backed startups.

This situation is compounded by a provision in the Innovation Act that would allow the joinder of “interested parties” when a non-prevailing party is unable to pay fees and expenses assessed under H.R. 9’s fee shifting provision. We understand the intent is to address the issue of shell corporations which finance abusive lawsuits; however, the ounce of prevention offered by this provision would have dramatic unintended consequences. Investors in innovative startup companies, particularly in the technology and life sciences industries, know that in the event of a product success the companies they invest in have a high likelihood of being sued by patent

¹ http://m.bizjournals.com/sanjose/blog/techflash/2015/02/somas-hot-but-study-finds-heart-of-tech-success-in.html?ana=e_du_wknd&s=article_du&ed=2015-02-14&u=xVuE3P+KD4rm2d5NbDIa3Jyig5&t=1423933353&r=full

holders, or might need to sue companies infringing their patents. This joinder provision would cause many venture capitalists to avoid investing in innovative startups that are increasingly dependent on their patent portfolios. It could also force them to quickly abandon their investments when litigation becomes necessary to either enforce patents, or defend infringement claims.

Finally, we believe that the provision in the Innovation Act which would stay customer suits is overbroad and unnecessary. Courts already have at their disposal a balanced body of law to ensure efficient and consistent resolution of related infringement issues, including consolidation of cases under Rule 42(a), or under the auspices of the Judicial Panel on Multi-District Litigation (“MDL”). These rules are more than sufficient to address any abusive situations.

While we have specific and profound concerns with the approach to patent reform taken by H.R. 9, we believe that reform is needed in certain areas. We would welcome the opportunity to work with you in this process to make sure the right legislation, not just any legislation, is passed into law.

Thank you for your attention to our views. We will continue to highlight our concerns as this process moves forward.

Sincerely,

Roger Sippl
Founder, Executive Chairman & CTO
Connected Cloud

Thomas J. Fogarty, M.D.
Chairman, Director, Founder
Fogarty Institute for Innovation

Zeeshan Naseh
President and Chief Executive Officer
Connectloud

Mark Lewis
CEO
Formation Data Systems

Greg Bakan
CEO
Cotera, Inc.

K. Angela Macfarlane
President & CEO
ForSight VISION4, Inc.

Patrick Maguire
CEO
CyberHeart, Inc.

John Maroney
CEO
ForSight VISION5, Inc.

Ronald Mosso
CEO
EnerVault

Jeff Grainger
Managing Partner
The Foundry

Joshua Makower, M.D.
Founder & CEO
ExploraMed Development

Steve Axelrod
CEO
G-Tech Medical

Dennis Wahr, M.D. President and CEO Holaira	Eb Bright Chief Operating Officer Nuelle
Jessie Becker CEO Inpress Technologies, Inc.	Jonathan Coe COO Prescient Surgical
Fletcher Wilson Founder & CEO InterVene	Bev Huss CEO Qool Therapeutics
Dr. Greg Raleigh Founder, CEO & Chairman ItsOn	Charles Giancarlo Chairman Soraa Chairman Avaya
Howard Earhart CEO LensVector	Jeff Parker CEO Soraa
Mark Juravic CEO Materna Medical	Brian Walsh President & CEO Transcend Medical
Michael Kleine President & CEO Miramar Labs, Inc.	Andrew Cleeland CEO Twelve
Kevin Sidow President & CEO Moximed	Jill Wilson CEO Vida Systems, Inc.
Dave Amerson President & CEO Neotrac	Gabriel Sanchez Founder & CEO Zebra Medical

Cc: Members of the House Judiciary Committee
 Speaker John Boehner
 Majority Leader Kevin McCarthy
 Minority Leader Nancy Pelosi
 California Congressional Delegation



March 13, 2015

To: All US Senators

Subject: Support the STRONG Patent Act and the TROL Act, not Anti-Patent
Senate Bills Similar to HR 9

SBTC advocates for the 5,000 Small Business Innovation Research (SBIR) firms who receive a quarter of America's R&D 100 awards (the world's most valuable patents) and create 58% more patents than all universities combined. SBTC is a council of the National Small Business Association (NSBA), which has a much broader main street constituency.

I am co-chair of the SBTC and separately the founder, chairman, and majority owner of five technology firms, an inventor, professional engineer, attorney, and patent attorney. I have thirty-one patents of my own and control about two hundred patents and applications through my companies. I am also an Angel investor and a member of several angel groups, and I was previously the Licensing Manager of a major engineering firm. I understand the invention ecosystem from multiple perspectives.

I am gravely concerned about a letter initiated by Senator Warner asking Senators to support legislation similar to last year's House Bill HR 3309 (now HR 9) in the Senate. A similar bill was proposed last year by Senator Leahy and others were also proposed in the Senate.

For the sake of America's future, please do not support such legislation, which will seriously harm small inventors and allow large, dominant companies to infringe small inventors' patents with impunity. The HR 9 and related Senate legislation does nothing to solve the Troll issue, but does make sure that small inventors can never afford to enforce their patents. It overturns 220 years of American growth by fundamentally changing the economy, from one that thrives on technical innovation to one that makes market dominance the primary criteria for continued success. The bill will substantially cut the potential value and job-creating incentives of new innovations. This will discourage innovation, slow the economy, and put American businesses at a disadvantage against foreign competition. Many leading organizations oppose HR 9, including the National Small Business Association, the Association of American Universities, the National Association of Patent Practitioners, the Patent Office Professional Association, and the Office of Advocacy of the US Small Business Administration. It is also opposed by over 2,000 small inventors, a number of large inventing businesses, and many others.

As an example, Virginia Gavin, owner of Appligent Inc., and a member of the NSBA, having received two demand letters and paid twice, was extremely anti-troll. Once she understood each and every provision of HR 3309, she stated, "There is NOTHING in this bill that will help me and several items that will harm my business."



HR 9 does not stop the large, well-funded Trolls. It hurts small inventing businesses. It allows large tech firms to infringe with impunity against small firms that cannot afford the risks associated with enforcing their patents. “Loser pays” means even the slightest chance of a small inventor losing a lawsuit will quell innovation, as it destroys the value of patents. Inventors must risk losing their entire business, as well as personal assets pledged as security, to enforce a patent. (This may well lead to the loss of their house, then their spouse and children (as what spouse will stick around a “crazy” inventor who has his home taken away by the court.) [It is strange that only inventors, and the people that fund them, are so heinous in this proposed America, that only they should lose the protection of the corporate veil.]

Patents and innovation are the lifeblood of our high standard of living. Patents advance and protect American manufacturing and American innovation. HR 9 would strike a terrible blow against future American jobs growth. HR 9 purports to attack trolls, but it will mainly decimate small entity innovation by creating a system where only multi-millionaires and big businesses can afford patents.

The Orwellian-labeled “patent reform” bills attack patent rights, cloud the title to patents, and help infringers avoid suits by raising the cost to enforce patents beyond the financial resources of most inventors and small businesses. Diminished patent enforcement capability for small business will reduce the creation of quality jobs in America.

HR 9 will also severely impact licensing in America. Licensees will become responsible for the court costs of the patent litigation winner should their licensor loose. The licensee’s business plans may be disclosed months or years prior to their market announcement as the courts reveal the existence of the license, and thus the licensee’s planned technology path to the competition, foreign and domestic.

For additional information on how HR 9 (or HR 3309) and similar legislation damages small business innovation, please see:

- <http://sbtc.org/wp-content/uploads/2015/01/SBTCPatentletter2pagecondensedversion.pdf>
- <http://www.nsba.biz/wp-content/uploads/2013/12/NSBA-Letter-in-Opposition-to-the-Innovation-Act-HR-3309.pdf>
- <http://www.nsba.biz/wp-content/uploads/2013/10/Patent-Coalition-Letter.pdf>
- <http://www.nsba.biz/?p=7273>
- <http://sbtc.org/wp-content/uploads/2014/02/Letter-to-Office-of-Advocacy-regarding-Patent-Reform-2-13-2014-final.pdf>
- http://sbtc.org/wp-content/uploads/2014/04/Advocacy-Letter-to-Senator-Landrieu-3_12_14.pdf
- sbtc.org/wp-content/uploads/2014/05/R.-Schmidt-written_testimony_HSBC.pdf

I also suggest that you view the materials at www.SavetheInventor.com and [#PatentsMatter](#). We believe that HR 9 and similar Senate proposed, Anti-Patent Legislation is bad for small inventors, bad for innovation, bad for America, and bad for job creation. I urge you not to sign the Warner letter.



Small inventors can, however, support legislation proposed in the TROL Act, <http://sbtc.org/wp-content/uploads/2014/07/SBTC-Letter-to-Speaker-Boehner-Supporting-TROL-ACT-7-22-14.pdf> and the new STRONG Patent Act of 2015, proposed by Senator Coons, <http://www.coons.senate.gov/patents>. This legislation will protect companies from trolls but will not hurt small inventors.

You should also be aware of certain inaccuracies in the Sen. Warner letter. Please see the letter from forty economists and law professors disputing the ‘facts’ cited in the Warner letter regarding the \$29B cost. It can be seen at: <<http://cpip.gmu.edu/wp-content/uploads/2015/03/Economists-Law-Prof-Letter-re-Patent-Reform.pdf>>. The letter expresses serious concern that Congress will restructure the U.S. patent system based on flawed, unreliable, and unrepresentative studies of patent litigation (e.g. Bessen & Meurer’s \$29 billion “study”), and it urges Congress to proceed with caution to ensure balanced, targeted, legislation.

Finally, patent lawsuit filings actually decreased in 2014, including a substantial decrease in lawsuits by patent licensing companies. This calls into question the need for further patent “reform” following passage of the America Invents Act (AIA) in 2011. Congress should demand reliable data on the American patent system and proceed with caution to address remaining problems without hurting small businesses and individual inventors.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert N. Schmidt".

Robert N. Schmidt, MS, MBA, JD
National Co-Chair, Small Business Technology Council

Chairman VITTER. Bob, please proceed.

STATEMENT OF ROBERT N. SCHMIDT, CO-CHAIR, SMALL BUSINESS TECHNOLOGY COUNCIL, NATIONAL SMALL BUSINESS ASSOCIATION

Mr. SCHMIDT. Senator Vitter, Senator Cardin, members, thank you very much for asking me to testify today on this very important matter for technology startups and small businesses.

For the past 25 years, I have founded and led these companies, and we have about 80 employees in total and a dozen doctorate degrees and over \$10 million in annual revenues. That gives you a scale of what we do, but we sell our products on seven continents.

So I am here today as the co-chair of the Small Business Technology Council, speaking on behalf of the 5,000 firms who participate in the SBIR and SDTR programs. I do so to raise our concerns regarding the detrimental effects that patent reform, bills such as H.R. 9, the so-called Innovation Act, will have on small inventing companies.

We would like to add small business to the list of individuals, of individual inventors, universities, venture capitalists, patent examiners, former patent commissioners, and patent court judges that oppose such legislation. Crafting a narrow and targeted alternative to this harmful legislation is important to small business inventors as patents are critical to all innovative firms and especially SBIR firms.

The Federal Reserve found that patents are the number one indicator of regional wealth.

Small businesses employ 37 percent of the scientists and engineers, 50 percent more than all the large corporations combined.

SBIR firms have received about 121,000 patents.

The Fortune 500 firms' share of R&D 100 Awards, the world's most valuable innovations, has dropped from over 40 percent in the 1970s and early 1980s to just 6 percent, or 1 in 16, while SBIR firms receive 4 times as many of these R&D 100 Awards as the Fortune 500 firms together.

In short, SBIR firms and small business is where innovation happens.

Large firms can, and do, survive without strong patents; small businesses cannot. Weakening patent rights threatens the very interest of universities and small business. Without strong patents, we cannot commercialize our inventions, and technology jobs will go overseas.

The over-broad and sweeping proposed legislation in H.R. 9 will have the effect of suppressing patent rights of all patentees and, in particular, will hurt the small, high-tech, job-creating SBIR businesses and, thus, the economy.

Simply stated, patents are far more important to small business survival and growth than to large businesses, and licensed patents are the only way universities can commercialize their research.

The Senate is now presented with a choice between two bills—the House's H.R. 9, the ill-named Innovation Act, or S. 632, appropriately termed STRONG Patents Act of 2015.

H.R. 9, which I believe should be more aptly named the Ending the American Dream Act, with functions such as those providing

for endless review, clouds title to patents, weakens the patent holder's ability to economically enforce their patents, and undermines fundraising and licensing activities.

In contrast, the STRONG Patents Act ends the invention tax by securing PTO user fees from diversion away from the Patent Office, ensuring that resources are commensurate with examination workload. And, the STRONG Patents Act protects patent holders from large patent ogres, those who would otherwise infringe small firms' invalid patents with impunity.

Let me repeat. H.R. 9 does not eliminate trolls, but it will engender the large monopolistic and market dominant firms, encouraging more patent ogre activity.

Finally, I want to put to rest the myth that small business supports the Innovation Act. H.R. 9 does not solve the troll problem.

Virginia Gavin, a small business owner who had received two demand letters and paid twice, she was as anti-troll as one could be. But once she understood each and every provision of H.R. 3309, which was H.R. 9's predecessor, she stated, "There is nothing in this bill that will help me and several items that will harm my business."

Thus, we oppose H.R. 9.

However, we do support legislation proposed in the STRONG Patents Act and the Troll Act.

Thank you very much.

[The prepared statement of Mr. Schmidt follows:]

Oral Testimony of Robert N. Schmidt
Co-Chair, Small Business Technology Council
Before the
Senate Small Business and Entrepreneurship Committee
March 19, 2015

Senator Vitter, Senator Cardin, Committee Members, I am grateful for the privilege of testifying today on this very important matter for technology startups and small business. For the past 25 years, I have founded and lead five high-tech companies. Together, they have about 80 employees, a dozen doctorate degrees, over \$10M in annual revenues, and we sell products on all seven continents.

I am here today as the Co-Chair of the Small Business Technology Council, speaking on behalf of the 5,000 firms who participate in the SBIR and STTR programs. I do so to raise our concerns regarding the detrimental effects that “Patent Reform” bills such as H.R. 9, the so-called “Innovation Act,” will have on small inventing companies. We would like to add small business to the list of individual inventors, universities, venture capitalists, patent examiners, former patent commissioners, and Patent Court judges that oppose such legislation. Crafting a narrow and targeted alternative to this harmful legislation is important to small business and inventors, as patents are critical to all innovative firms, and especially SBIR firms.

The Federal Reserve found that patents are the number one indicator of regional wealth.

Small Businesses employ 37% of scientists and engineers, 50% more than all large corporations combined. SBIR firms have received about 121,000 patents. The Fortune 500 firms’ share of R&D 100 awards (the world’s most valuable innovations) has dropped from over 40% in the 1970s and early 1980s to just

6%. (1 in 16); while SBIR firms receive four times as many as all the Fortune 500 firms together.

In short SBIR firms and small business is where invention happens.

Large firms can and do survive without strong patent rights. Small businesses cannot. Weakening patent rights threatens the very interests of universities and small businesses. **Without strong patents, we cannot commercialize our inventions and technology jobs will go overseas.**

The overbroad and sweeping proposed legislation in H.R. 9 will have the effect of suppressing patent rights of *all* patentees, and in particular, will hurt the small high-tech, job-creating SBIR businesses, and thus the economy. Simply stated, patents are far more important to small businesses' survival and growth than to large businesses. And licensed patents are the only way universities can commercialize their research.

The Senate is *now* presented with the choice between two bills, the House's H.R. 9, the ill-named "Innovation Act"¹, or S.632, the appropriately-termed STRONG Patents Act of 2015.² H.R. 9, which I believe should be more aptly named "The Ending the American Dream Act," clouds title to patents³, weakens the patent holder's ability to economically enforce their patent, and undermines fund-raising and licensing activities. In contrast, the STRONG Patents Act ends the "invention tax" by securing the PTO user fees from diversion away from the Patent Office, ensuring that resources are commensurate with examination workload. And the STRONG Patents Act protects patent holders from large patent "Ogres" who would otherwise infringe small firms' valid patents with impunity. Let me repeat, H.R. 9, **does not eliminate trolls**, but it will engender the large monopolistic and market dominant firms, encouraging more Patent Ogre activity.

Finally, I want to put to rest the myth that small business supports the Innovation Act. HR 9 does not solve the Troll problem. Virginia Gavin, a small business owner had received two demand letters and paid twice. She was as anti-troll as one could be. But once she understood each and every provision of HR 3309, HR 9's predecessor, she stated, "**There is NOTHING in this bill that will help me and several items that will harm my business.**" Thus, we opposed HR 9.

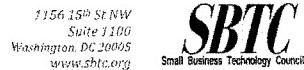
However, we do support legislation proposed in the STRONG Patent Act, and the TROL Act,

Thank you.

¹ <https://www.congress.gov/114/bills/hr9/BILLS-114hr9ih.pdf>

² <http://patentlyo.com/media/2015/03/STRONG-Patents-Act-of-2015.pdf>

³ For example, See HR 9 section, 9(a) striking "or reasonably could have raised," allowing infringers to have multiple bites at the apple, prolonging Post Grant Review proceedings, increasing cost to the patent holder, and making it more difficult for small patent holders to raise money.



**Testimony of Robert N. Schmidt
Co-Chair, Small Business Technology Council
Before the
Senate Small Business and Entrepreneurship Committee
March 19, 2015**

*Heidi Jacobus
Robert Schmidt
Co-Chairmen*

*Jere Glover
Executive Director*

*Lori Nannis
Treasurer*

*Kevin Burns
Greg Zacharias
New England
Regional Chair*

*Matt Orisano
Joseph Schwartz
Mid-Atlantic
Regional Chair*

*Ash Thakker
Southeast
Regional Chair*

*Mary Dehlbunz
Southwest
Regional Chair*

*Russ Farmer
Mountain
Regional Chair*

*Michael Browne
Pacific
Regional Chair*

*Ray Keiser
State Liaison*

*Greg Zacharias
DOD Committee
Chair*

*Paul Dangayam
Michael Sviridante
NHIC Committee
Chair*

*Ash Thakker
Phase III Committee
Chair*

*Russ Farmer
DCAA Committee
Chair*

Senator Vitter, Senator Cardin, Committee Members, I am grateful for the privilege of testifying today on a very important matter for technology startups and small business. I am here today as the Co-Chair of the Small Business Technology Council¹ (SBTC), the high tech arm of the National Small Business Association (NSBA), which is the nation's longest running small-business advocacy organization.² Although NSBA has expressed its concerns elsewhere on behalf of a broader constituency,³ today I speak on behalf of the 5,000 firms who participate in the Small Business Innovation Research⁴ (SBIR) and Small Business Technology Transfer⁵ (STTR) programs. I do so to raise our concerns regarding the detrimental effects that "Patent Reform" bills such as H.R. 9, the so-called "Innovation Act," will have on small inventing companies. We would like to add small business to the list of universities, venture capitalist, technology startups, small inventor entrepreneurs, former patent commissioners, conservatives, liberals, and Patent Court judges that oppose such legislation as currently written. Crafting a narrow and targeted alternative to this harmful legislation is important to small business and inventors, as patents are critical to all innovative firms, especially SBIR firms.

Small Businesses employ 37% of scientists and engineers.⁶ SBIR firms have received about 121,000 patents,⁷ and small businesses create 16.5 times more patents per employee than large firms.⁸ And SBIR firms employ 7.28% of all of America's STEM workers.⁹ While ostensibly aimed at curbing a small number and anecdotal instances of abusive patent litigation, the overbroad and sweeping proposed legislation in H.R. 9 will have the effect of suppressing patent rights of all patentees, and in particular, will hurt the small high-tech, job-creating SBIR businesses, and thus the economy.¹⁰ Simply stated, patents are far more important to small businesses' survival than to large businesses. And licensed patents are the only way universities can commercialize their research.

SBIR firms receive a quarter of America's R&D 100 awards (the world's most valuable patents) and create 58% more patents than all universities combined.¹¹ SBIR firms employ scientists that have received 11 Nobel prizes, receive one in every seven VC dollars, and were involved in 1,866 Mergers and Acquisition deals.¹² The Fortune 500 firms' share in generating key innovations has dropped from over 40% in the 1970s and early 1980s to just 6%. Large firms can and do survive without strong patent rights. Small businesses cannot. Weakening patent rights will threaten the very interests of universities and small businesses that Congress sought to protect in appropriating R&D funds, thereby undermining the taxpayers' important investment in research commercialization and domestic job creation. Without strong patents, foreign interests will usurp American R&D and commercialize our efforts overseas.

The Senate is now presented with the choice between two bills, the House's H.R. 9, the counterfactually-named "Innovation Act"¹³, or S.632, the appropriately-termed STRONG Patents Act of 2015.¹⁴ H.R. 9, which I believe should be more aptly named "The Ending the American Dream Act," clouds title to patents¹⁵, weakens the patent holder's ability to economically enforce their patent,^{16,17} and undermines fund-raising and licensing activities.¹⁸ In contrast, the STRONG Patents Act secures the user fees from diversion away from the Patent Office, ensuring that resources are commensurate with examination workload, and protects patent holders from large patent "Ogres" who would otherwise infringe their valid patents with impunity. Let me repeat, H.R. 9, eliminate trolls, but it will engender the large monopolistic and market dominate firms, encouraging more Patent Ogre activity.

But before we get into the details, we must first understand the importance of the decision before you – weakening or strengthening patent rights. The Federal Reserve found that patents are the number one indicator of regional wealth,¹⁹ more important than education or infrastructure. Being a high patenting community means the difference of \$8,600 in household income.²⁰

In 2012, Intellectual Property (IP) was responsible for sustaining more than 55.7 million jobs in the U.S.²¹ Intangible assets including corporate IP and brand recognition account for 84 percent of the value of U.S. public companies.²² Innovative methods of patent licensing can add up to \$200 billion in new annual growth to the U.S. economy. IP-based business activities constitute approximately 55 percent of U.S. GDP,²³ and in 2011, IP-based assets were valued at about \$9 trillion.²⁴ These baselines should give us all pause, as they provide the missing context for the (inflated but relatively) minuscule alleged \$29 billion per year costs of "troll" litigation that we keep hearing from proponents of H.R. 9. Thus, hasty decisions changing the patent laws would result in several orders of magnitude more risk, which can result in downturn shocks to our economy that are several times that caused a single time by the housing crisis of 2008.

This debate is on several aspects of patent legislation appears primarily between the large market dominant IT firms and small players such as those that participate in the SBIR program. However, when it comes to patent legislation, it is far more important that Congress pay attention to the plight of small businesses who create 64% of all new private sector jobs.²⁵ The major IT firms supporting the Innovation Act: Google, Cisco Systems, and Microsoft combined have about 125,000 US employees.²⁶ SBIR companies employ over 500,000 STEM employees.²⁷

The America Invents Act of 2011.

The America Invents Act²⁸ (AIA) was in part "sold" on stopping rampant litigation by so-called "Patent Trolls," and in part on harmonizing our patent system with that of the rest of the world (The AIA made our economy more like France). Instead, the AIA only caused much higher rate of litigation, surging to unprecedented levels.²⁹ Immediately after the AIA was passed, its proponents changed their tune and insisted that the new "Innovation Act" is needed to stop the "Trolls". However, as we have seen, neither the AIA nor the Innovation Act will solve the Troll problem. What already has largely quashed any Troll problem that might have ever existed are recent Supreme Court decisions in *Octane Fitness v. Icon*³⁰ and *Hightmark v. Allcare*,³¹ which have the effect of reducing patent litigation. They relaxed the standards for awarding attorney fees and costs to the prevailing party.

The AIA made it harder to get a patent and harder to sustain it in post grant challenges in the Patent Office and in court. Substantially limiting the one-year grace period, made many inventors lose their patent rights due to prior disclosures and public use or sale. It also made it much more difficult to obtain funding as VCs generally won't sign non-disclosures. Inter Partes and Post Grant Reviews also added another nine months

after patent issue to clear the title from potential infringers attacking the patentee's claims. As "time is money," this can be critically debilitating for new startups.

The AIA and recent court decisions are already causing a devaluation of American wealth. "*Publicly held corporations will have to report any material devaluation to shareholders and the Securities and Exchange Commission (SEC), resulting in a devastating impact on patent centric companies. Hardest hit will be the high tech and biotech firms, which contribute significantly to U.S. economic growth, particularly through job creation, and whose innovations are primarily responsible for the United States' edge over global competitors.*"^{32,33} Other writings are also calling for a Mark to Market approach to devalue companies due to the declining value of patents in the US.³⁴

The "Innovation Act" of 2015, HR 9.

The recent "Patent Reform" bills, such as H.R. 3309 and H.R. 9, its identical follow-up in this Congress, have an insidious effect on small businesses. This proposed legislation will deprive small inventors of opportunities to get the best inventions to market because it will deter investors from making what would constitute much riskier investments. By imposing: Fee Shifting Joinder, Loser Pays, Pay to Play, Covered Business Methods (CBM), Elimination of Post Grant Review Estoppel, Disclosure of All Plaintiff Interested Parties, Enhanced Pleadings and Limiting Discovery, and Customer Stay provisions that are so onerous, only large corporations will be able to commercialize inventions. **The provisions will make small inventing companies "Toxic Assets" to investors.** H.R. 9's provisions micromanage procedures and adjudication in patent cases. It takes much discretion away from the judiciary in case-management based on their expertise and judgment for the particular case at hand. Only a few of the concerns will be discussed here for brevity. For example some manifestly one-sided provisions are:

- Section 3(a) is unduly burdensome and raises pleading standards only on patent owners, requiring detailed particularities in alleging infringement, but has no similar requirements that defendants making counterclaims or filing declaratory actions show with particularity why they do not infringe or why the patent is invalid.
- Section 3(b)(1) effectively requires the loser of a patent suit to pay the prevailing party legal fees and costs. This is the most onerous provision of the bill for small business litigants as this significantly raises the risk, where the small company owner risks losing everything. It will have severe chilling effects on small entities' ability to access the courts to seek redress.
- Section 3(d) provides that if the losing party is unable to pay, the court may make recoverable such awards against a joined "Interested Party" (investor or licensee of patentee) but no such joinder of an "Interested Party" in a non-prevailing insolvent alleged infringer is provided in the section. This provision removes corporate protections for tangential players and imposes mandatory disclosures on licensees, or investors, revealing strategic information to their rivals. This will discourage investment in patenting companies and perversely increase incentives to invest in infringers.
- Section, 9(a) undoes the hard-fought balance in the AIA by removing the "reasonably could have raised" estoppel that now prevents alleged infringers from having multiple "bites at the apple" and prolonging court proceedings, increasing cost to the patent holder, and making it more difficult for small patent holders to raise money.

The details of these and many more legislative "potholes" were previously described in my five part series in IP WatchDog. (See References^{35,36,37,38,39}) SBTG and the NSBA have also made our strong opposition to the Innovation Act known to Congress and the Administration.^{40,41,42,43,44} Many concerns similar to ours have also been expressed to the Senate Small Business and Entrepreneurship Committee by the SBA Office of Advocacy.⁴⁵

One of the more disturbing “sales techniques” for H.R. 9 is the use of highly disputed ‘facts’ and flawed studies cited by proponents regarding the \$29 billion direct costs,^{46,47} and the \$80 billion per year social cost.⁴⁸ These and other flawed “scholarship” have been debunked by 40 economists and law professors, and their letter⁴⁹ expresses serious concern that Congress will restructure the U.S. patent system based on flawed, unreliable, and unrepresentative studies of patent litigation, and it urges Congress to proceed with caution to ensure balanced, targeted, legislation.

One of the most disturbing elements of H.R. 9 is what is not in the bill. It does not correct the \$1.7 Billion dollar invention tax which has been levied on inventors by diverting patent office fees to the general government fund. Ending fee diversion and using fees for sufficient examination is critical to improving the patent system.

In a speech David Kappos made on March 13, 2015,⁵⁰ the former director of the United States Patent and Trademark Office (USPTO) made a number of statements, which are summarized in the footnotes. The most salient points are:

- Some reasonable level of disputes is inherent in an IP system whose success depends on flexibility, and patent litigation is no worse than in the past.
- The patent system has long time constants. The impact of present changes will only be realized many years down the line, and we have not yet felt all the effects of the AIA. Proposed changes are like addressing a hangnail with an amputation.
- Competitors are laughing at the prospect of the US significantly weakening its patent system and giving a leg up to our competitors.
- The data shows an irrefutable decline in patent litigation, not an increase. The number of litigants in new district court patent cases declined over 23% from 2013 to 2014, down to 16,089—the lowest level since 2009.
- All this data taken together screams that the AIA is working, and that “**whatever further tinkering is needed, it should take a light touch.**” [Emphasis mine.]
- The denial rate in 2015 to date for attorney fees is only 48%. [Thus, we can see that in more than half the cases this year, attorney fees are already being awarded when requested. It is hard to understand why additional legislative action is required here. There is also difficulty in identifying a “prevailing party” in the common situation where a litigant prevails on some issues but not others, and how does one legislate a “reasonable fee.”]
- Problems with customer stays include: (1) customizable technologies where the retailer can modify the product, and (2) data shows that courts are readily using the customer stay authority. The facts demonstrate no necessity for congressional action in this area.

Monopolists and other large dominant firms^{51,52,53} know that either only other large firms or patents are the only market forces that can break their control of the market. These Monopolists and large dominant firms want to preserve their dominance in the field by using their vast influence and wealth to change laws in their favor, maintaining their market power.

H.R. 9 and past similar bills have also been opposed by the former head of the USPTO, David Kappos,^{54,55,56,57,58,59,60} the former Chief Judge of the Federal Circuit, Paul Michel,^{61,62,63,64,65} universities,^{66,67,68,69,70,71,72,73} Venture Capitalists,^{74,75,76,77,78,79} entrepreneurs,^{80,81,82,83,84} and conservatives.^{85,86,87,88,89,90,91,92,93,94,95}

H.R. 9 and previous related Senate legislation do nothing to solve the Troll issue, but do make sure that small inventors can never afford to enforce their patents. They attempt to overturn 220 years of American growth by fundamentally changing the economy, from one that thrives on technical innovation to one that makes market dominance the primary criteria for continued success. HR 9 will substantially cut the

potential value and job-creating incentives of new innovations. This will discourage innovation, slow the economy, and put American businesses at a disadvantage against foreign competition.

As an example of why the “Patent Reform” does not solve the Troll issue, Virginia Gavin, owner of Appligent Inc., and a member of the NSBA, having received two demand letters and paid twice, was extremely anti-troll. Once she understood each and every provision of HR 3309, she stated, “**There is NOTHING in this bill that will help me and several items that will harm my business.**” Thus, NSBA opposed HR 9.^[See footnote 3] Others will come to the same conclusion once they have studied the details H.R. 9.

H.R. 9 will also severely impact licensing in America. Licensees may become responsible for the court costs of the patent litigation winner should their licensor lose. More importantly, the licensee’s business plans may be disclosed months or years prior to their anticipated market announcement as the courts reveal the existence of the license, and thus the licensee’s planned technology path to the competition, foreign and domestic. Weakening patents and the resulting decline in licensing will also directly hurt universities.

The STRONG Patents Act of 2015.

Small business inventors do support legislation proposed in the STRONG Patent Act of 2015, proposed by Senator Coons, <http://www.coons.senate.gov/patents>. This legislation will protect companies from trolls but will not hurt small inventors.⁹⁶ It subsumes the prior TROL Act,⁹⁷ which was supported by the SBTC.⁹⁸

SBTC supports the STRONG Act even as currently written because it does no harm to small inventors or the American economy, and because it has many attractive amendments such as making Inter Partes and Post Grant Reviews fairer for the patent holder. That said, the STRONG Act can be improved by:

- Incorporating clarifying language into 35 USC 102 that would provide clear and reliable provisions to restore the one-year grace period. This will ensure that public use and on sale activities less than one year prior to filing an application do not constitute a bar to obtaining a patent.
- Legislating a clear rule of law for patentable subject matter, thereby removing the immense judge-made ambiguity and uncertainty regarding eligible and ineligible subject matter.
- Providing greater elasticity for punitive behavior for small inventors and startup companies when they have acted in good faith and they make honest mistakes when attempting to enforce their patents, as even the Supreme Court has trouble telling us inventors the meets and bounds of terms like “abstract”, and patent claims require parties to define the meets and bounds of every single word in a claim.
- Extending the protections ensuring expedited procedures accorded in Section 111(c)(2) of the STRONG Act to small business concerns in order to also provide such expedited procedures for small business concerns that assert patents.

I thank you for allowing me to testify, and I would be happy to answer any questions you might have now, or later in writing for the record, at rschmidt@CleveMed.com or by phone at 216-374-7237.

Robert N. Schmidt, MS, MBA, JD
 Fort Myers, FL
 216-374-7237
rschmidt@CleveMed.com

National Co-Chair, Small Business Technology Council (www.sbtc.org)
 Board Member, National Small Business Association (www.nsba.biz)
 Corresponding Member, IEEE-USA Intellectual Property Committee

Patent Attorney (USPTO #30,889)
 Professional Engineer (Ohio. # 40821)
 Attorney (Ohio, #0002719)
 Member: North Coast Angel Fund I & II, Ohio Tech Angels I

4415 Euclid Ave., Suite 400
 Cleveland, OH 44103-3757
 Chairman & CEO
 Cleveland Medical Devices Inc. www.ClevMed.com
 Orbital Research Inc. www.OrbitalResearch.com
 Great Lakes Neuro Technologies Inc. www.GLNeroTech.com
 NeuroWave Systems Inc. www.NeuroWaveSystems.com
 Flocel Inc. www.Flocel.com

References:

¹ www.sbtc.org

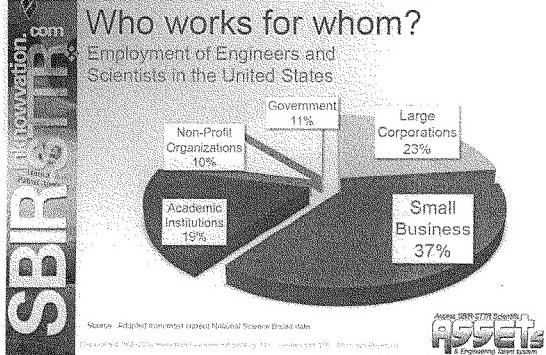
² www.nsba.biz

³ [www.nsba.biz?p=9389](http://www.nsba.biz/?p=9389), "NSBA has previously urged lawmakers to oppose this bill [H.R. 3309, identical to HR 9] due to the rushed process in bringing the bill to the floor, the lack of small-business input throughout the process and the inclusion of several provisions that create an undue or unfair burden on small, innovative firms, including, but not limited to: fee-shifting, pay-to-play, and covered business methods, which would disproportionately affect small-business inventors and make the cost of defending patents too burdensome to litigate"; www.nsba.biz/wp-content/uploads/2013/10/Patent-Coalition-Letter.pdf; www.nsba.biz/wp-content/uploads/2013/12/NSBA-Letter-in-Opposition-to-the-Innovation-Act-HR-3309.pdf; [www.nsba.biz?p=7273](http://www.nsba.biz/?p=7273).

⁴ <https://www.sba.gov/offices/headquarters/oca/resources/6827>

⁵ <https://www.sba.gov/offices/headquarters/oca/resources/6828>

⁶ Source: Ann Eskesen of Innovation Development Corporation



⁷ www.Inknowvation.com

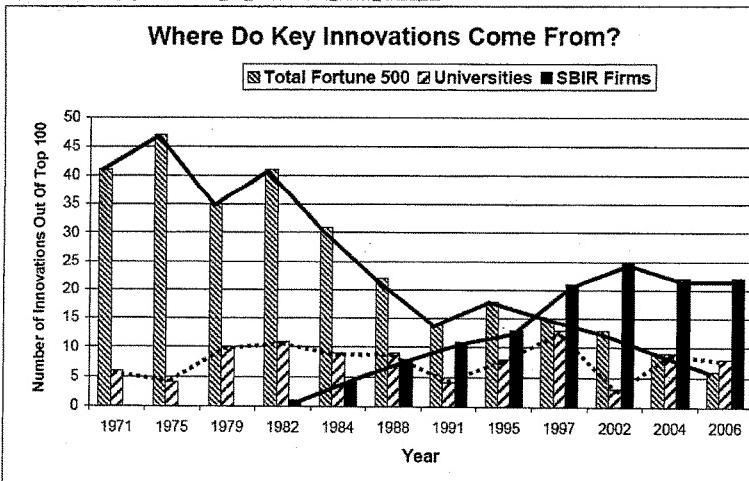
⁸ <https://www.sba.gov/sites/default/files/sbfaq.pdf>

⁹ Source: Ann Eskesen of Innovation Development Corporation

Analysis of extent to which SBR-5TRR Awardees by State and overall are a factor in US STEM employment							
State	Number of SBR-5TRR Awardees	Calculated SBR-5TRR employment (2011 data)		US STEM employment being SBR-connected		Percentage of US STEM jobs	Notes
		STEM	Total	STEM	Total		
AK	28	489	19,362	2,936	8,214	0.29%	
AL	11	1,000	3,900	1,000	2,700	0.25%	
AR	73	383	12,013	3,000	4,243	0.35%	
AZ	178	6,999	12,994	5,826	6,056	1.81%	
CA	5,514	115,667	85,463	13,295	7,626	13.00%	
CO	242	12,200	37,347	7,799	8,556	2.48%	
CT	111	1,000	3,900	1,000	2,700	0.25%	
DE	86	3,156	72,143	1,000	15,206	1.05%	
FL	53	3,893	23,242	0,846	7,329	0.38%	
GA	347	5,102	17,747	3,014	3,159	2.51%	
HI	1	1	1	1	1	0.00%	
IL	172	2,263	57,656	4,836	6,056	0.23%	
ID	86	1,628	34,725	4,699	6,396	1.51%	
IL	563	1,729	70,782	2,799	5,836	3.80%	
IN	245	3,842	10,432	3,079	4,476	3.35%	
KS	100	1,000	3,900	1,000	2,700	0.25%	
KY	130	1,920	6,908	3,526	4,336	0.38%	
LA	34	1,531	59,348	2,586	3,894	0.87%	
MA	1,797	53,214	245,903	71,279	8,846	3.65%	
MD	1,061	28,525	102,150	11,158	9,885	2.95%	
ME	1	1	1	1	1	0.00%	
MI	567	20,211	71,145	4,456	6,535	1.77%	
MD	205	8,056	17,981	5,125	6,378	3.30%	
MD	206	1,941	118,564	3,238	5,426	2.73%	
MD	207	763	19,362	3,238	3,766	1.96%	
MD	208	1,751	19,362	3,238	3,766	1.96%	
MD	209	1,751	19,362	3,238	3,766	1.96%	
MD	210	1,751	19,362	3,238	3,766	1.96%	
MD	211	1,751	19,362	3,238	3,766	1.96%	
MD	212	1,751	19,362	3,238	3,766	1.96%	
MD	213	1,751	19,362	3,238	3,766	1.96%	
MD	214	1,751	19,362	3,238	3,766	1.96%	
MD	215	1,751	19,362	3,238	3,766	1.96%	
MD	216	1,751	19,362	3,238	3,766	1.96%	
MD	217	1,751	19,362	3,238	3,766	1.96%	
MD	218	1,751	19,362	3,238	3,766	1.96%	
MD	219	1,751	19,362	3,238	3,766	1.96%	
MD	220	1,751	19,362	3,238	3,766	1.96%	
MD	221	1,751	19,362	3,238	3,766	1.96%	
MD	222	1,751	19,362	3,238	3,766	1.96%	
MD	223	1,751	19,362	3,238	3,766	1.96%	
MD	224	1,751	19,362	3,238	3,766	1.96%	
MD	225	1,751	19,362	3,238	3,766	1.96%	
MD	226	1,751	19,362	3,238	3,766	1.96%	
MD	227	1,751	19,362	3,238	3,766	1.96%	
MD	228	1,751	19,362	3,238	3,766	1.96%	
MD	229	1,751	19,362	3,238	3,766	1.96%	
MD	230	1,751	19,362	3,238	3,766	1.96%	
MD	231	1,751	19,362	3,238	3,766	1.96%	
MD	232	1,751	19,362	3,238	3,766	1.96%	
MD	233	1,751	19,362	3,238	3,766	1.96%	
MD	234	1,751	19,362	3,238	3,766	1.96%	
MD	235	1,751	19,362	3,238	3,766	1.96%	
MD	236	1,751	19,362	3,238	3,766	1.96%	
MD	237	1,751	19,362	3,238	3,766	1.96%	
MD	238	1,751	19,362	3,238	3,766	1.96%	
MD	239	1,751	19,362	3,238	3,766	1.96%	
MD	240	1,751	19,362	3,238	3,766	1.96%	
MD	241	1,751	19,362	3,238	3,766	1.96%	
MD	242	1,751	19,362	3,238	3,766	1.96%	
MD	243	1,751	19,362	3,238	3,766	1.96%	
MD	244	1,751	19,362	3,238	3,766	1.96%	
MD	245	1,751	19,362	3,238	3,766	1.96%	
MD	246	1,751	19,362	3,238	3,766	1.96%	
MD	247	1,751	19,362	3,238	3,766	1.96%	
MD	248	1,751	19,362	3,238	3,766	1.96%	
MD	249	1,751	19,362	3,238	3,766	1.96%	
MD	250	1,751	19,362	3,238	3,766	1.96%	
MD	251	1,751	19,362	3,238	3,766	1.96%	
MD	252	1,751	19,362	3,238	3,766	1.96%	
MD	253	1,751	19,362	3,238	3,766	1.96%	
MD	254	1,751	19,362	3,238	3,766	1.96%	
MD	255	1,751	19,362	3,238	3,766	1.96%	
MD	256	1,751	19,362	3,238	3,766	1.96%	
MD	257	1,751	19,362	3,238	3,766	1.96%	
MD	258	1,751	19,362	3,238	3,766	1.96%	
MD	259	1,751	19,362	3,238	3,766	1.96%	
MD	260	1,751	19,362	3,238	3,766	1.96%	
MD	261	1,751	19,362	3,238	3,766	1.96%	
MD	262	1,751	19,362	3,238	3,766	1.96%	
MD	263	1,751	19,362	3,238	3,766	1.96%	
MD	264	1,751	19,362	3,238	3,766	1.96%	
MD	265	1,751	19,362	3,238	3,766	1.96%	
MD	266	1,751	19,362	3,238	3,766	1.96%	
MD	267	1,751	19,362	3,238	3,766	1.96%	
MD	268	1,751	19,362	3,238	3,766	1.96%	
MD	269	1,751	19,362	3,238	3,766	1.96%	
MD	270	1,751	19,362	3,238	3,766	1.96%	
MD	271	1,751	19,362	3,238	3,766	1.96%	
MD	272	1,751	19,362	3,238	3,766	1.96%	
MD	273	1,751	19,362	3,238	3,766	1.96%	
MD	274	1,751	19,362	3,238	3,766	1.96%	
MD	275	1,751	19,362	3,238	3,766	1.96%	
MD	276	1,751	19,362	3,238	3,766	1.96%	
MD	277	1,751	19,362	3,238	3,766	1.96%	
MD	278	1,751	19,362	3,238	3,766	1.96%	
MD	279	1,751	19,362	3,238	3,766	1.96%	
MD	280	1,751	19,362	3,238	3,766	1.96%	
MD	281	1,751	19,362	3,238	3,766	1.96%	
MD	282	1,751	19,362	3,238	3,766	1.96%	
MD	283	1,751	19,362	3,238	3,766	1.96%	
MD	284	1,751	19,362	3,238	3,766	1.96%	
MD	285	1,751	19,362	3,238	3,766	1.96%	
MD	286	1,751	19,362	3,238	3,766	1.96%	
MD	287	1,751	19,362	3,238	3,766	1.96%	
MD	288	1,751	19,362	3,238	3,766	1.96%	
MD	289	1,751	19,362	3,238	3,766	1.96%	
MD	290	1,751	19,362	3,238	3,766	1.96%	
MD	291	1,751	19,362	3,238	3,766	1.96%	
MD	292	1,751	19,362	3,238	3,766	1.96%	
MD	293	1,751	19,362	3,238	3,766	1.96%	
MD	294	1,751	19,362	3,238	3,766	1.96%	
MD	295	1,751	19,362	3,238	3,766	1.96%	
MD	296	1,751	19,362	3,238	3,766	1.96%	
MD	297	1,751	19,362	3,238	3,766	1.96%	
MD	298	1,751	19,362	3,238	3,766	1.96%	
MD	299	1,751	19,362	3,238	3,766	1.96%	
MD	300	1,751	19,362	3,238	3,766	1.96%	
MD	301	1,751	19,362	3,238	3,766	1.96%	
MD	302	1,751	19,362	3,238	3,766	1.96%	
MD	303	1,751	19,362	3,238	3,766	1.96%	
MD	304	1,751	19,362	3,238	3,766	1.96%	
MD	305	1,751	19,362	3,238	3,766	1.96%	
MD	306	1,751	19,362	3,238	3,766	1.96%	
MD	307	1,751	19,362	3,238	3,766	1.96%	
MD	308	1,751	19,362	3,238	3,766	1.96%	
MD	309	1,751	19,362	3,238	3,766	1.96%	
MD	310	1,751	19,362	3,238	3,766	1.96%	
MD	311	1,751	19,362	3,238	3,766	1.96%	
MD	312	1,751	19,362	3,238	3,766	1.96%	
MD	313	1,751	19,362	3,238	3,766	1.96%	
MD	314	1,751	19,362	3,238	3,766	1.96%	
MD	315	1,751	19,362	3,238	3,766	1.96%	
MD	316	1,751	19,362	3,238	3,766	1.96%	
MD	317	1,751	19,362	3,238	3,766	1.96%	
MD	318	1,751	19,362	3,238	3,766	1.96%	
MD	319	1,751	19,362	3,238	3,766	1.96%	
MD	320	1,751	19,362	3,238	3,766	1.96%	
MD	321	1,751	19,362	3,238	3,766	1.96%	
MD	322	1,751	19,362	3,238	3,766	1.96%	
MD	323	1,751	19,362	3,238	3,766	1.96%	
MD	324	1,751	19,362	3,238	3,766	1.96%	
MD	325	1,751	19,362	3,238	3,766	1.96%	
MD	326	1,751	19,362	3,238	3,766	1.96%	
MD	327	1,751	19,362	3,238	3,766	1.96%	
MD	328	1,751	19,362	3,238	3,766	1.96%	
MD	329	1,751	19,362	3,238	3,766	1.96%	
MD	330	1,751	19,362	3,238	3,766	1.96%	
MD	331	1,751	19,362	3,238	3,766	1.96%	
MD	332	1,751	19,362	3,238	3,766	1.96%	
MD	333	1,751	19,362	3,238	3,766	1.96%	
MD	334	1,751	19,362	3,238	3,766	1.96%	
MD	335	1,751	19,362	3,238	3,766	1.96%	
MD	336	1,751	19,362	3,238	3,766	1.96%	
MD	337	1,751	19,362	3,238	3,766	1.96%	
MD	338	1,751	19,362	3,238	3,766	1.96%	
MD	339	1,751	19,362	3,238	3,766	1.96%	
MD	340	1,751	19,362	3,238	3,766	1.96%	
MD	341	1,751	19,362	3,238	3,766	1.96%	
MD	342	1,751	19,362	3,238	3,766	1.96%	
MD	343	1,751	19,362	3,238	3,766	1.96%	
MD	344	1,751	19,362	3,238	3,766	1.96%	
MD	345	1,751	19,362	3,238	3,766	1.96%	

¹⁰ Patents are critical to the success of SBIR Program participants. The Innovation Act makes patents harder to get and to keep, which will likely retard some companies from commercializing, thus causing them to be removed from the program. This is another way the Innovation Act will decrease company success and employment in the US.

¹¹ [http://www.itif.org/files/Where do innovations come from.pdf](http://www.itif.org/files/Where%20do%20innovations%20come%20from.pdf)



SBIR firms receive about three to four times as many R&D 100 awards as Fortune 500 Companies, on a tiny fraction of the budget.

¹² www.inknowvation.com

¹³ <https://www.congress.gov/114/bills/hr9/BILLS-114hr9is.pdf> 7 of 12

¹⁴ <http://patentlyo.com/media/2015/03/STRONG-Patents-Act-of-2015.pdf>

¹⁵ For example, See HR 9 section, 9(a) striking “or reasonably could have raised,” allowing infringers to have multiple bites at the apple, prolonging Post Grant Review proceedings, increasing cost to the patent holder, and making it more difficult for small patent holders to raise money.

¹⁶ For example, See HR 9 section 3(a), which makes it much harder for patent holders to plead before they do discovery, and they can’t do discovery until after they plead.

¹⁷ For example, See HR 9 section 3(b)(1), which requires the loser of a patent suit pay the prevailing parties legal fees. This is the most onerous provision of the bill for small patent holders who try to enforce their patent. Large firms typically spend several times as much on defense attorneys as plaintiffs spend on their legal costs. This significantly raises the risk, where the small company owner risks losing not only their company, but their house, and then their spouse and children.

¹⁸ For example, See HR 9, where funders and licensees can be joined and become personally responsible for all legal cost of the prevailing parties should they lose. It also discloses licensees, publishing to their competitors their technology roadmap in the fact that they had licensed a technology, presumably for a commercial purpose.

¹⁹ See Federal Reserve Bank of Cleveland, “Altered States: A Perspective on 75 Years of State Income Growth,” *Annual Report 2005*. For more detail, see Paul Bauer, Mark Schweitzer, Scott Shane, *State Growth Empirics: The Long-Term Determinants of State Income Growth*, Working Paper 06-06, Federal Reserve Bank of Cleveland, May 2006, <https://www.clevelandfed.org/en/Newsroom%20and%20Events/Publications/Working%20Papers/2006%20Working%20Paper.aspx> and Click on the PDF for WP-06-06 by Bauer et. al.

²⁰ Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas Jonathan Rothwell, José Lobo, Deborah Strumsky, and Mark Muro. At \$4,300 per worker, that is \$8,600/year for a two worker household. <http://www.brookings.edu/-/media/research/files/reports/2013/02/patenting-prosperity-rothwell/patenting-prosperity-rothwell.pdf> page 15.

²¹ Global Intellectual Property Center, US Chamber of Commerce, 2012. <http://www.theglobalipcenter.com/ip-creates-jobs/>

²² Based on the value of S&P 500 firms. <http://www.oceantomo.com/ocean-tomo-300/>

²³ Robert Litan and Hal Singer, Unlocking Patents: Costs of Failure, Benefits of Success, http://www.ei.com/downloadables/EI_Patent_Study_Singer.pdf

²⁴ See Kevin A. Hassett & Robert Shapiro, What Ideas Are Worth: The Value of Intellectual Capital And Intangible Assets in the American Economy, Sonecon (Sept. 2011) at 2, available at www.sonecon.com/docs/studies/Value_of_Intellectual_Capital_in_American_Economy.pdf

²⁵ https://www.sba.gov/sites/default/files/FAO_Sept_2012.pdf

²⁶

Jobs of Major IT firms supporting the Innovation Act

	Worldwide	Outside US	% Outside US	References
	US	US		
Google	52,069	28,633	54.4%	http://us.greatrated.com/googlenet
Cisco	75,049	36,463	48.5%	http://www.forbes.com/companies/cisco-systems/ http://us.greatrated.com/cisco
Microsoft	99,000	59,730	60.1%	http://www.forbes.com/companies/microsoft/ http://us.greatrated.com/microsoft-corporation
Total	226,118	124,826	54.4%	

²⁷ SBIR involved firms employ about 8% of the 7,000,000 STEM workers in America. Source: Private Conversations with Ann Eskesen of the Innovation Development Institute, www.innowation.com, March 2015. There are more than 500,000 STEM employees in the more than 22,000 current and former SBIR involved firms.

²⁸ Public Law, 112-29, Effective September 16, 2011, The Leahy-Smith America Invents Act (AIA), http://www.uspto.gov/aia_implementation/bills-112hr1249enr.pdf

²⁹ Ron D. Katzenbach, “The America Invents Act at Work – The Major Cause for the Recent Rise in Patent Litigation,” *IPWatchdog*, (April 15, 2013). At <http://bit.ly/AIA-Litigation>. (Explaining how changes in 35 U.S.C. §§ 299, 315(b), and 325(b) have changed lawsuit filing practices that caused the filing surge).

³⁰ http://www.supremecourt.gov/opinions/13pdf/12-1184_pdh.pdf

³¹ http://www.supremecourt.gov/opinions/13pdf/12-1163_806g.pdf

³² http://amicourip.com/publications/microsoft_v_i4i.html

³³ http://smallbusiness.house.gov/uploadedfiles/5-21-2014_pschmidt_revised_testimony.pdf page 6 of 12

³⁴ Patent law changes in US mean there are potentially billions of dollars of write-downs on public company balance sheets, says Spangenberg, "As a result of the changes in patent law, there are billions of dollars in potential write-downs on public company balance sheets for previous acquisitions. Perhaps this will cause the financial types to speak up about how this asset class is being devalued by well-intended, but fundamentally misguided, reform and judicial activism." January 15, 2015. <http://www.iam-magazine.com/blog/Detail.aspx?g=cc718b2d-407c-4840-a9d7-41ff77321943>

³⁵ Robert N. Schmidt, Heidi Jacobus, Jere Glover, Why 'Patent Reform' Harms Innovative Small Businesses, Part I of V, April 25, 2014, IP WatchDog, <http://www.ipwatchdog.com/2014/04/25/why-patent-reform-harms-innovative-small-businesses/id=49260/>.

³⁶ Robert N. Schmidt, Heidi Jacobus, Jere Glover, Raising the Cost of Enforcing Patents: 'Patent Reform' Prices Small Businesses Out of the Inventing Business, Part II of V, April 27, 2014, IP WatchDog, <http://www.ipwatchdog.com/2014/04/27/raising-the-cost-of-enforcing-patents/id=49268/>

³⁷ Robert N. Schmidt, Heidi Jacobus, Jere Glover, 'Patent Reform' Will Keep Small Business Inventions From Being Commercialized, Part III of V, April 28, 2014, IP WatchDog, <http://www.ipwatchdog.com/2014/04/28/patent-reform-harms-innovative-small-businesses-3/id=49276/>

³⁸ Robert N. Schmidt, Heidi Jacobus, Jere Glover, 'Patent Reform' Tips Power in Favor of Infringers and Against Small Businesses, Part IV of V, April 29, 2014, IP WatchDog, <http://www.ipwatchdog.com/2014/04/29/patent-reform-harms-innovative-small-businesses-4/id=49278/>

³⁹ Robert N. Schmidt, Heidi Jacobus, Jere Glover, Why 'Patent Reform' Harms Innovative Small Businesses – Summary, Part V of V, April 30, 2014, IP WatchDog, <http://www.ipwatchdog.com/2014/04/30/patent-reform-harms-innovative-small-businesses-5/id=49281/>

⁴⁰ <http://sbtc.org/wp-content/uploads/2015/02/SBTC-Request-to-Reject-Anti-Patent-Legislation-Feb-4-2015-1.pdf>

⁴¹ <http://sbtc.org/wp-content/uploads/2014/07/SBTC-Letter-to-Speaker-Boehner-Supporting-TROL-ACT-7-22-14.pdf>

⁴² http://sbtc.org/wp-content/uploads/2014/05/R.-Schmidt-written-testimony_HSBC.pdf

⁴³ <http://sbtc.org/wp-content/uploads/2015/01/SBTCPatentLetter2pagecondensedversion.pdf>

⁴⁴ <http://sbtc.org/wp-content/uploads/2014/02/Letter-to-Office-of-Advocacy-regarding-Patent-Reform-2-13-2014-final.pdf>

⁴⁵ http://sbtc.org/wp-content/uploads/2014/04/Advocacy-Letter-to-Senator-Landrieu-3_12_14.pdf

⁴⁶ Adam Mosseff, <http://truthonthemarket.com/2013/03/15/the-shield-act-when-bad-studies-make-bad-laws/>

⁴⁷ Adam Schwartz and Jay Kesan, Analyzing the Role of Non-Practicing Entities in the Patent System, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2117421.

⁴⁸ Ron D. Katzenbach, "Questionable Science Will Misguide Patent Policy – The \$83 billion per year fallacy," (February 1, 2014). Available at <http://ssrn.com/abstract=2502777>.

⁴⁹ The letter can be seen at: <<http://cpip.gmu.edu/wp-content/uploads/2015/03/Economists-Law-Prosfs-Letter-re-Patent-Reform.pdf>>.

⁵⁰ Kappos speech on March 13, 2015, <http://www.iam-media.com/files/Kappos%20speech.pdf> Here are some of the most important quotes:

The recent "smartphone wars" are no more the harbinger of an inevitable innovation decline than were fights over sewing machines in the mid-1800s, the telegraph in the late 1800s, or airplanes in the early 1900s. Some reasonable level of disputes is inherent in an IP system whose success depends on flexibility, and every generation has experienced this tension.

The key to successful maintenance of the patent system is recognizing that it is a system of long time constants. The impact of present changes will only be realized many years down the line. Addressing today's issues—which are real but not dire—through a massive overhaul of the system is like addressing a hangnail with an amputation: the immediate problem will be obviated, but a slew of graver, irreversible problems will arise in the solution's wake.

Competition from overseas makes the consequences of bad reform that much worse. And our overseas competitors are looking on right now, not knowing whether to laugh or cry. Those seeking to copy American innovation are laughing at the prospect of the US significantly weakening its patent system and giving a leg up to our competitors. Those seeking to have their countries strengthen their IP systems so that they too can enjoy the fruits of innovation are crying because the gold standard is being undermined.

*First and foremost, the data that the sky-is-falling alarmists are finding the hardest to swallow: an irrefutable decline in patent litigation. In 2013, reformers decried the unprecedented levels of patent litigation and built a reform narrative around "out-of-control" patent litigation, promising it would only soar to new heights unless reform was initiated, and *now*.*

Well, so much for that rallying cry: every credible study of 2014 patent litigation trends has reported that, from 2013 to 2014, there was a roughly 18% decline in the total number of patent suits nationwide. Recognizing the incongruity of this trend with the 2013 narrative, the storytellers have moved the goalposts. The new focus has shifted from recent trends to a selective look-back against 2010 levels. The sleight-of-hand lies in the apples-to-oranges

comparison, as the increase in the number of patent suits since then has nothing to do with an increase in actual disputes, but rather with procedural changes altering the rules for joinder brought into effect by the AIA.

The fiction of an astronomical increase in patent litigation is undermined by the facts: adjusting for procedural changes of the AIA, patent litigation at the end of 2014 was actually commensurate with 2009-2010 levels. And in a recent comprehensive study of 2014 trends, it was revealed that the number of litigants in new district court patent cases declined over 23% from 2013 to 2014, down to 16,089—the lowest level since 2009.

All this data taken together screams that the AIA is working, and that whatever further tinkering is needed, it should take a light touch. [Emphasis mine.]

Turning now to raw data on denied motions for attorney fees under Section 285, U.S. district courts have ruled on 924 such motions since 2008. The denial rate hovered around 60% until 2013, when it increased to 67%. But it appears Octane Fitness and Highmark may be reversing the trend. Last year only 57.6% motions were denied, and the denial rate in 2015 to date is only 48%. [Thus, we can see that in more than half the cases this year, attorney fees are already being awarded. It is hard to understand why additional legislative action is required here.]

Those concerned about fee-shifting legislation beyond what the Supreme Court has already mandated judicially point to inherent problems, such as the difficulty in identifying a “prevailing party” in the common situation where a litigant prevails on some issues but not others, and the difficulty in legislating a “reasonable fee.”

Another area where major reform is being urged is for covered customer stays. Facialy, the notion that “mere users” of potentially infringing technologies should be dismissed from litigation predominantly targeting parties higher up in the supply chain seems perfectly reasonable. But there are two problems with the legislative approach. First, many technologies are highly customizable—meaning that the rigidity of a statutory fix is unlikely to adequately distinguish between infringement that is inherent in the technology (in which case a stay is appropriate) versus infringement caused by aftermarket modification (in which case the user is not properly dismissed from the action). Second, federal courts already have the authority to stay litigation against peripheral defendants. And once again the facts become problematic for the major reform narrative, as data show that courts are readily using that authority.

Hence, while hypotheticals of customers hauled into court for unwittingly using an infringing device purchased from a retailer may provide an effective lobbying tactic, the facts demonstrate no necessity for congressional action in this area.

⁵¹ Microsoft has a 93.4% Desktop Operating System Market Share, almost 17 times the 5.2% market share for Mac, <http://www.netmarketshare.com/operating-system-market-share.aspx?qprid=10&qpcustomd=0>

⁵² Google has 88.1% of the global search engine market share, more than 21 times its nearest competitor at 4.13%, <http://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/>

⁵³ Cisco had a 42.5% market share of the North American X86 Blade Server Market in 2Q CY 2014, http://www.cisco.com/c/dam/en/us/solutions/collateral/data-center-virtualization/unified-computing/cisco_ucs_market_share_infographic_final.pdf

⁵⁴ <http://fortune.com/author/david-j-kappos/>

⁵⁵ <http://www.iam-media.com/files/Kappos%20speech.pdf>

⁵⁶ https://www.youtube.com/watch?v=vYKN_INRPOQ

⁵⁷ <http://www.ipnav.com/blog/former-uspto-head-david-kappos-patent-system-in-good-shape/>

⁵⁸ <http://scienceprogress.org/2013/05/software-patents-separating-rhetoric-from-facts/>

⁵⁹ http://judiciary.house.gov/_files/hearings/113th/10292013/Kappos%20Testimony.pdf

⁶⁰ The Patent System Is A Boon -- Not A Drain -- To The American Economy Guest post written by David Kappos, <http://www.forbes.com/sites/realspin/2014/06/10/the-patent-system-is-a-boon-not-a-drain-to-the-american-economy-2/>

⁶¹ Judge Michel: Patent Reform Bills Would Weaken Patent System, IP WatchDog, October 16, 2013,

<http://www.ipwatchdog.com/2013/10/16/judge-michel-patent-reform-bills-would-weaken-patent-system/id=45709/>

⁶² *The View from the Bench*, A Conversation with Paul Michel '66, Retired Chief Judge of the U.S. Court of Appeals for the Federal Circuit. "All the patent disputes on Capitol Hill were protecting some very specific interest, which is legitimate enough, but no one was looking at it from the standpoint of what's good for the system, what's good for the country, and what's good for the future. So I decided to leave the court in order to be free to speak out on patent reform issues and other matters." <http://www.law.virginia.edu/html/alumni/uvalawver/f12/michel.htm>

⁶³ Interview With Chief Judge Paul R. Michel On US Patent Reform, "I do not favor the House bill and would only favor the Senate bill if the special interest provisions were deleted." July 14, 2011, . <http://www.ip-watch.org/2011/07/14/interview-with-chief-judge-paul-r-michel-on-us-patent-reform/>

⁶⁴ Former CAFC Chief Judge Michel on Patent Reform, Judge Michel wrote a piece for IP Watchdog where he argues that H.R. 1249 will torpedo patent rights. <http://www.stevenslawgroup.com/california-legal-news/michel%20on%20patent%20reform>

⁶⁵ Judge Michel Takes "Patent Reform" Bills To Task, In an interview with Intellectual Property Watch, former Chief Judge Paul R. Michel set forth, in one place, all of the most problematic (Ed.: read, "worst") features of the Leahy Smith America Invents Act, versions of which have been passed by the House and the Senate.

The interview focuses both on the special interest features of the Senate bill such as those invalidating tax strategy patents and expanding prior user rights. He also notes the weaknesses in the House bill potentially limiting PTO full access to all the user fees it collects. He notes the flaws in the one-year grace period for inventor-generated disclosures and opposes the additional burdens on patentees imposed by post-grant review.

Wearing my patent prosecutor hat, I see little to like about this bill. Its roots are in oft-parroted but flawed analyses that suggest the U.S. economy is somehow being damaged by "flawed patents." However, almost every feature of the bill simply makes patent protection more difficult to obtain, or weakens patent protection, for small start-ups and universities, as well as for mega-industries. Coupled with anti-patent decisions such as KSR, Bilski and Ariad, (the "jury" is still out on Prometheus, Myriad and Classen) pioneering inventions, particularly in early-stage technologies, are in for a very bumpy ride. <http://www.patents4life.com/2011/07/judge-michel-takes-patent-reform-bills-to-task/>

⁶⁶ <http://innovationalliance.net/from-the-alliance/letter-innovation-alliance-universities-bio-among-others-claim-opposition-current-patent-bill/>

⁶⁷ <http://www.rsc.org/chemistryworld/2015/03/us-universities-warn-against-patent-reform-proposals>

⁶⁸ <http://www.ipnav.com/blog/growing-opposition-to-the-seneses-approach-to-patent-reform/>

⁶⁹ <http://www.aminn.org/patent-legislation>

⁷⁰ <http://www.patentdocs.org/2015/01/big-ten-lobbies-congress-to-tread-lightly-on-patent-reform.html> and

<http://www.aplu.org/members/councils/governmental-affairs/CGA-library/sample-big-ten-patent-letter-1-25-15/file>

⁷¹ <http://thehill.com/blogs/congress-blog/technology/232699-junk-science-still-front-and-center-in-push-to-weaken-patents>

⁷² 40 economists and law professors, <http://pdfserver.amlaw.com/nj/paten%20march%202010.pdf>

⁷³ Patent Law Gone Awry: How Bob Goodlatte's Bill Combines Useless Rigidity With Dangerous Discretion, <http://www.forbes.com/sites/richardepstein/2015/02/13/patent-law-gone-awry-how-bob-goodlates-bill-combines-useless-rigidity-with-dangerous-discretion/>

⁷⁴ Statement of Robert P. Taylor House Subcommittee on the Courts, Intellectual Property, and the Internet, Feb. 12, 2015, http://judiciary.house.gov/_cache/files/84bf6fe6-a6c4-4d7f-9464-0cb5f481db7d/02.12.15-taylor-testimony.pdf

⁷⁵ <http://venturebeat.com/2015/02/16/innovation-act-2-0-still-misses-the-point/>

⁷⁶ <http://nvca.org/issues/patent-reform/>

⁷⁷ <http://nvca.org/pressreleases/venture-industry-raises-concerns-goodlatte-patent-litigation-reform-bill/>

⁷⁸ <http://fortune.com/2011/09/02/how-the-new-bid-to-reform-patent-law-will-kill-jobs/>

⁷⁹ http://www.ipadvocate.org/mibi/pdfs/Lauder_Buck%20Stops.pdf

⁸⁰ Anti-Inventor Legislation Being Proposed in Congress, FEBRUARY 19, 2015, <http://economyincrisis.org/content/anti-inventor-legislation-being-proposed-in-congress>

⁸¹ BIO Statement Regarding the Reintroduction of the Innovation Act, <https://www.bio.org/media/press-release/bio-statement-regarding-reintroduction-innovation-act>

⁸² <http://www.aminn.org/patent-legislation>

⁸³ <http://thehill.com/blogs/congress-blog/technology/232371-celebrating-inventors-day-by-protecting-strong-patents>

⁸⁴ https://www.bio.org/sites/default/files/Patent_Reform_Study.pdf

⁸⁵ <http://www.washingtontimes.com/specials/conservative-blueprint-protecting-inventors/>

⁸⁶ 24 Conservative organizations have joined together to send a letter House and Senate leadership expressing opposition to H.R. 9, the "Innovation" Act, <http://www.scribd.com/doc/258369625/Conservative-Patent-Letter>

⁸⁷ Patent trolls, patent thieves, and the future of innovation, Originally published by The Hill, By Rep. Dana Rohrabacher (R-Calif.) and Rob Arnott, March 11, 2015, <http://conservative.org/patent-trolls-patent-thieves-and-the-future-of-innovation/>

⁸⁸ <http://www.iam-media.com/Blog/Detail.aspx?g=e4cd3a12-d832-489a-8349-788ae97a5955>

⁸⁹ Carly Fiorina excoriated a Republican patent reform proposal in a speech to inventors on Wednesday, comparing it to Obamacare and Dodd-Frank. 03/04/2015 <http://dailycaller.com/2015/03/04/fiorina-dont-boil-the-oceans/>

⁹⁰ <http://conservative.org/road-to-cpac/rick-santorum-patent-reform-comes-at-the-expense-of-entrepreneurship-and-the-american-worker/>

-
- ⁹¹ <http://www.redstate.com/diary/setonmotley/2015/02/17/media-report-patent-trolls-think-people-protecting-private-property/>
- ⁹² <http://dailycaller.com/2014/12/04/the-conservative-case-against-patent-reform/>
- ⁹³ <http://www.washingtonexaminer.com/conservatives-slam-patent-reform-as-secret-obama-gift-to-google/article/2559389>
- ⁹⁴ <http://www.ipwatchdog.com/2015/02/24/conservatives-should-have-no-part-of-patent-reform/id=55163/>
- ⁹⁵ <http://www.precursorblog.com/?q=content/googles-anti-conservative-values-cpac-2015-google-panel>
- ⁹⁶ <http://sbtc.org/wp-content/uploads/2015/03/Letter-to-Senators-asking-them-not-to-sign-the-Sen-Warner-Patent-Letter-03-13-2015.pdf>
- ⁹⁷ <http://democrats.energycommerce.house.gov/sites/default/files/documents/Bill-Text-Targeting-Rogue-Opaque-Letters-2014-7-7.pdf>
- ⁹⁸ <http://sbtc.org/wp-content/uploads/2014/07/SBTC-Letter-to-Speaker-Boehner-Supporting-TROL-ACT-7-22-14.pdf>

Chairman VITTER. Thank you. Thank you very much, Bob.
 And next, we have Tim Molino, Director of Policy for BSA the Software Alliance.

Mr. Molino has a long history of policy work related to patents, including as a former top Senate staffer and as chief counsel for Senator Amy Klobuchar. During his law career, Tim focused on patent litigation in the areas of software, medical devices, and biotech, and he also prosecuted patent applications and provided counseling regarding non-infringement and validity issues.

Welcome, Tim, and please proceed.

STATEMENT OF TIM MOLINO, DIRECTOR, POLICY, BSA | THE SOFTWARE ALLIANCE

Mr. MOLINO. Chairman Vitter, Ranking Member Cardin and members of the Committee, thank you for the opportunity to testify on this very important topic of patent reform.

BSA is the world's leading voice for the software industry. From the way our children learn, how we communicate with colleagues and loved ones, the cars we drive, and to the medical devices that save our lives, software is making the world a better place.

In order to keep this innovation thriving, BSA member companies believe that there is an urgent need for legislation to address abuse that all too often happens during patent litigation.

The Small Business Committee is the ideal venue for an organization like BSA to present our views. Although our members range in size from very small to large, each of them was founded by one or two individuals with passion, an idea, and a vision for bringing that idea to the marketplace. Software-related patents are especially important for our members and other small businesses in many sectors of the economy that rely on the patent system—a patent system that is strong, predictable, efficient, and fair.

In today's world, much of the innovation that is occurring comes through the development of software, whether it is building energy efficient offices and homes, running factories more safely and productively, or making transportation systems more efficient. Software patents play a vital role for small businesses by protecting their ideas against copiers, preserving the value of their innovation as they build their businesses, and providing a foundation to attract the investment capital needed to launch and grow.

But the promise of software patents rings hollow if an inventor cannot properly enforce their rights or defend themselves when sued.

There is no escaping the reality that patent litigation is enormously expensive and the costs are only growing. Unfortunately, the escalation often comes because bad actors drive up litigation costs by employing abuse tactics.

And, more and more, they prey on smaller companies with limited experience of the patent system and limited resources. A small business that is the victim of abusive litigation tactics often faces the need to use scarce resources to fund the litigation rather than grow its business.

To be clear, however, we firmly believe that the ability to legitimately enforce a valid patent is the foundation of a strong and effective patent system. We are just trying to end the abuse.

Abusive litigation tactics serve none but the abuser. They do not create jobs. They do not deliver new products and services. And, they do not contribute to our innovation economy.

Senate action to end abusive litigation is urgently needed.

We believe that effective litigation must provide genuine notice by requiring plaintiffs to clearly set forth their allegations in their complaint, make discovery more efficient by having courts issue an early claims construction decision that will narrow the issues relevant to the suit before the expensive part of discovery begins, and deter weaker frivolous cases by awarding fees only when a party asserts objectively unreasonable claims, and then ensuring a party that is awarded fees has an efficient mechanism to collect them.

By enacting such legislation, Congress will help foster innovation and entrepreneurship for businesses of all sizes.

Some argue that no legislative changes are needed to the patent system because the Supreme Court has ruled on several patent cases in the last few years. The Supreme Court's decisions, however, only nibble at the edges of abuse. At bottom, the abuses have not ended and are not likely to end unless Congress takes action.

Some have also proposed making changes to the America Invents Act passed by Congress in 2011. In BSA's view, doing this would be premature. The AIA has only been up and running for about two years. The lack of a track record under these programs argues against making any changes at this time.

In conclusion, BSA is committed to ensuring that our robust patent system remains the envy of the world. To advance this goal, we believe patents should be available for all types of inventions, including software. We also believe that there is urgent need to end abusive litigation by focusing on legislation that addresses opportunistic behavior. We do not see these efforts as being inconsistent but, rather, complementary in promoting innovation and entrepreneurship.

We urge the Senate to move quickly to enact reforms that support a robust patent system while deterring abuse.

I look forward to answering your questions.

[The prepared statement of Mr. Molino follows:]

**Statement of Timothy A Molino
On Behalf of BSA | The Software Alliance**

"Patent Reform: Protecting Innovation and Entrepreneurship."

**Hearing before The Senate Committee on Small Business and Entrepreneurship
United States Senate
March 19, 2015**

Chairman Vitter, Ranking Member Cardin and members of the Committee, thank you for the opportunity to testify on this very important subject.

My name is Tim Molino. I am the Policy Director for BSA | The Software Alliance.¹ One of the principal issues I cover at BSA is intellectual property (IP) policy, including patent issues affecting the software industry. Prior to joining BSA, I worked in the Senate and prior to that, I spent eight years as a patent litigator. I am testifying today to advocate for the urgent need for legislation to address abuses that all too often occur during patent litigation.

BSA is the world's leading voice for the software industry. We represent both large and small software companies that provide consumers and businesses with products and services that improve productivity – and simply make life more fun. There is amazing innovation occurring in the software industry.

Intellectual property is core to a successful and robust software industry. A well-functioning intellectual property system - with protection for patents, copyrights, trademarks and trade secrets -- provides software developers the indispensable incentives to invest and apply their creative and inventive energies to innovate. Patent protection for software-related innovations is a vital part of this system, for small, medium, and well-established enterprises.

Although BSA members range in size – from very small to large, each was founded by one or two individuals with passion, an idea, and a vision for making that idea a marketplace reality. Unsurprisingly, each of our member companies also relies on patents to protect their innovations. For small businesses, patents are indispensable: they protect their ideas against copiers, preserve the value of their innovation as they build their businesses, and help them attract the investment capital they need to continue their research and development and to grow. In this way, the patent system retains its role as the engine for innovation, job creation, and economic expansion.

But that promise of innovation rings hollow if IP owners cannot enforce their patents or defend a patent suit in an efficient, cost-effective manner. Unfortunately, it is increasingly the case that bad actors are able to game the system through abusive litigation tactics. Some leverage the specialized nature and unique asymmetries in costs between plaintiffs and defendants that often characterize patent cases. They often take advantage of the fact that many smaller companies do not have the

¹ BSA's members include: Adobe, Altium, Apple, ANSYS, Autodesk, Bentley Systems, CA Technologies, CNC/Mastercam, Dell, IBM, Intuit, Microsoft, Minitab, Oracle, salesforce.com, Siemens PLM Software, Symantec, Tekla, The MathWorks, and Trend Micro.

internal resources to assess risk and negotiate favorable rates for litigation counsel. Others exploit the highly technical nature and complexity of patent cases, taking advantage of a strained court system where judges lack the resources to meticulously oversee cases. These bad actors intentionally increase litigation costs and create delays for plaintiffs to make it too risky to enforce legitimate rights. Or, they drive up costs for defendants to extract settlements that far outweigh the actual value of the disputed patent rights. By enacting legislation to curb these abuses, Congress will help foster innovation and entrepreneurship for businesses, both small and large, across all sectors of the economy.

Importance of a Well-Functioning Patent System

BSA members and other innovators rely on a patent system that is strong, predictable, and efficient. BSA companies invest as much as 10 percent of their revenues in research and development each year. Often, the innovation arising out of this research and development is protected by patents. Our members hold more than 80,000 U.S. patents, and they regularly license these patented inventions to others. Licensing encourages the dissemination of technology and fosters innovation by enabling collaboration among stakeholders. It also ensures companies that invest in innovation are not put at a competitive disadvantage, by having their competitors use their inventions for free.

But BSA members are not only among America's most innovative companies: we are some of the biggest targets for abusive patent suits.

The Current Problems with Patent Litigation Hurt Small Businesses

Patent litigation is enormously expensive, and the costs are growing. A 2011 survey by the American Intellectual Property Law Association found that the median cost of a medium-sized patent litigation is approximately \$6 million dollars per party, double the cost reported in 2009 and four times the cost reported in 2001.² The threat that a plaintiff or defendant will be forced to confront these extraordinary expenses enables abusive litigation tactics. Regardless of whether they are a plaintiff or defendant, most small businesses simply cannot afford to litigate a patent dispute.

As I mentioned earlier, BSA members are software companies of all sizes, including many smaller companies. The impact of patent lawsuits "on smaller startups is particularly acute."³ One survey indicates that, over a six-year period, roughly 66 percent of unique patent defendants were firms with annual revenue of less than \$100 million.⁴ Commentators have thus noted that "small companies—not tech giants—are the predominant targets" in certain abusive lawsuits.⁵ Victims of abusive suits are often faced with foregoing hiring engineers, delayed time-to-market, and challenges in receiving funding.

² Am. Intellectual Prop. Law Ass'n, Report of the Economic Survey 2011, at I-155 to I-156 (2011)

³ Executive Office of the President, *Patent Assertion & U.S. Innovation*, at 10 (2013), <http://tinyurl.com/lvk6ajl>

⁴ Colleen V. Chien, *Startups & Patent Trolls*, Santa Clara Univ. Legal Studies Research Paper No. 09-12, at 1-2 (Sept. 28, 2012).

⁵ Brian J. Love & James C. Yoon, *Expanding Patent Law's Customer Suit Exception*, 93 B.U. L. Rev. 1605, 1611 (2013).

Expending scarce resources on litigating patents is appropriate when a company is faced with a meritorious patent claim. That is the foundation of a strong and effective patent system. At the same time, when suits are driven by abusive litigation, there are unwarranted negatives effects on companies – especially small entrepreneurial businesses.

Many of our members have experienced directly the impact of expensive patent litigation on small businesses. For our smaller members, patent litigation is often a “bet-the-company” endeavor. This is not because of the potential damages or injunction, but rather it is simply because of the overwhelming cost to litigate a patent case. Not only are patent cases very expensive for most small businesses, they also require an intense amount of time and resources from top executives and innovators. At a time when it is imperative that these personnel focus on innovating and building their businesses, they are stuck litigating frivolous cases. Our larger companies also witness this when unscrupulous actors assert weak or invalid patents against their smaller customers or business partners.

BSA Priorities for Improving the Patent System

There is an urgent need for Congress to enact legislation that curbs abusive litigation behavior. This will help both large and small innovators and entrepreneurs by increasing transparency, addressing asymmetries that lead to abuse, and increasing fairness in the patent system. The proposed changes that BSA supports will lower the cost of patent litigation for all parties in a patent case. It will also foster more efficient and faster resolution of patent cases, which will help small entrepreneurs and innovators spend their time inventing rather than litigating.

Some argue that no legislative changes are needed to the patent system because the Supreme Court has ruled on several patent cases in the last the few years. The Supreme Court’s rulings, while touching on some of the issues causing the abuse, are constrained by the letter of the patent statute and make only incremental changes in these areas. As a result, the Court’s decisions do not sufficiently address the causes of the abuse, specifically the gross imbalance in costs and information that are exploited by the unprincipled in litigation. In fact, the recent rulings have increased ambiguities in some areas. At bottom, the abuses have not ended – and are not likely to end – unless Congress takes action.

BSA believes that Congress can make several important changes to curb patent litigation abuse. None of these alone is sufficient to address the problem, but taken together, these improvements will remove skewed incentives and deter unscrupulous actors. Importantly, these changes will not undermine the property right granted by a patent. In fact, implementing these measures will strengthen confidence in the patent system and the rights it protects.

BSA’s priorities include:

Genuine Notice Pleadings – All too often, an unscrupulous plaintiff will file a complaint that provides little to no detail as to how or why the plaintiff believes its patents are being infringed by the defendant. A well-pleaded complaint will serve to focus the litigation and more appropriately target discovery. Thus, we support requiring a plaintiff to articulate its theories of infringement in a complaint. This is an important and logical step toward making patent lawsuits more efficient and the system more equitable.

Efficient Discovery – Much of the expense in patent litigation occurs during the discovery phase. Patent cases have a special proceeding called “claim construction,” where the judge issues an order defining the scope of the case. This order can be very helpful in narrowing the issues and would limit the cost of discovery if it were issued early in the case. Thus, we support requiring courts to delay the bulk of discovery until after a “claim construction” decision has been rendered.

Discovery Cost Shifting – Unscrupulous actors often attempt to force the targets of their suits to respond to discovery “fishing expeditions” in an effort to drive up costs – in legal fees and in executive and employee time and resources. BSA supports requiring the party seeking discovery to pay the related costs of the other side when the requested information is deemed by a judge to be unnecessary to prove the case. Such measures will increase efficiency and remove incentives for abuse.

Fee shifting – Section 285 of the Patent Act gives courts the authority to shift fees, but the high threshold set by the current statute has resulted in a clouded interpretation of the law. Thus, parties in patent cases are motivated to drive up litigation costs because there is still a low risk that fees will be assessed and the Federal Circuit does not have the statutory tools it needs to review lower court decisions on fees. We support strengthening Sec. 285 to require a losing party that asserts frivolous claims during a patent lawsuit to pay the prevailing party’s attorneys fees and to ensure that fees can be collected when they are ordered by the court.

Customer Stay – A relatively new tactic used by unscrupulous litigants is to file suit against the customers of companies that make an allegedly infringing product. The customers are accused to have infringed just by purchasing and using an off-the-shelf product from a reputable manufacturer. This is often done to derive multiple settlements from multiple targets. In many cases, a single suit against the manufacturer establishing whether its product infringes could resolve dozens of individual cases brought against its customers. However, it is sometimes difficult to stay the case against such customers pending the outcome of the suit against the manufacturer. Thus, BSA supports legislation that would require courts to stay cases against a customer when the manufacturer is an appropriate defendant and the manufacturer willingly agrees to take over the case.

Demand Letters – Bad actors will often send bogus letters threatening patent litigation to unsuspecting small businesses with the sole purpose of trying to extract a settlement. Often, these letters are sent to dozens if not hundreds of companies, without any real investigation into whether there is actually a basis for alleging infringement. The letters often provide little if any information regarding how a particular recipient is alleged to have infringed a patent or patents and make misleading claims and unsubstantiated threats. This makes it very difficult and expensive for a small business to determine whether they have any legitimate liability exposure or whether the demand is simply an effort to mislead them into paying a settlement. We support legislation that will protect end-users and inexperienced recipients from wide-spread, bad-faith demand letters. This goal can be achieved without undermining a patent-holder’s constitutional right to enforce its intellectual property through balanced federal legislation that preempts the confusing-quilt of individual demand letter laws now emerging in the states.

Broadest Reasonable Interpretation (BRI) – Some stakeholders have proposed provisions that would force the USPTO to abandon the “Broadest Reasonable Interpretation” standard it currently uses to review patents in post-grant proceedings, making it more difficult to invalidate a patent during the proceeding. BSA opposes proposals to eliminate the use of the BRI standard during Post Grant Review processes.

Proposals Not Directly Addressing Litigation Abuse are Untimely

The 2011 America Invents Act (AIA) is only now being implemented by the USPTO. The AIA created new mechanisms for USPTO to review issued patents. These review programs, while in their infancy, are providing the opportunity to help remove arguably invalid patents from the system. Despite a limited record of administrative determinations, some believe the existing programs should go farther, while others believe they go too far. In BSA’s view, action to revisit post-issuance review programs – including post-grant, inter partes, and the covered business method review programs - is premature and unwarranted. Unlike litigation abuses, which policymakers, academics, and our companies have observed for more than a decade, the lack of experience under these programs and the inadequate ability to assess their impact on the system overall argues against further changes.

Importance of the Availability of Software Patents

Software innovation has provided a key engine of economic growth and job creation over the past decade. Software is now an integral element of the cars we drive, the systems that heat our homes, and the telecommunications systems that allow us to remain in touch with our loved ones. Software truly does make our world a better place. The incentives to develop innovative software would be much diminished, harming every aspect of our lives if patents were unavailable. Both economic theory and practical experience suggest that the availability of patents for software promotes innovation by supplying additional incentives to inventors. Moreover, software patents are especially important for small businesses, as they level the playing field by allowing innovators to compete with others who do not invest in the risky and difficult process of innovation. Software patents also “play a role of some importance in the development of firms seeking to enter the software industry” insofar as they significantly improve a company’s efforts to obtain venture capital.⁶

Conclusion

BSA is committed to ensuring that our robust patent system remains the envy of the world. To advance this goal, we believe patents should be available for all types of inventions, including in software, and further that such availability serves the constitutional mandate to promote the advancement of science and the useful arts, pursuant to Article 1, Section of 8. While we value and are committed to a strong patent system, we also believe that there is an urgent need to end abusive litigation by focusing on legislation that addresses opportunistic behavior. We do not see these efforts as in tension, and we are confident that effective reform this can be accomplished without diminishing the rights of inventors to enforce their legitimate property rights.

⁶ Ronald J. Mann & Thomas W. Sager, *Patents, Venture Capital, and Software Start-Ups*, 36 Research Policy 193, 194 (2007), <http://tiny.cc/snd99w>.

We urge the Senate to move quickly to enact reforms that support a robust patent system while deterring abuse. We thank the Committee for the opportunity to testify today, and I look forward to answering your questions.

Chairman VITTER. Great. Thank you, Mr. Molino.

And now I will turn to Senator Cardin who will introduce our next two witnesses.

Senator CARDIN. Well, let me first welcome Rachel King, the CEO of GlycoMimetics, to our Committee.

GlycoMimetics is a small pharmaceutical company with about 40 employees. Ms. King guided the company as it gathered \$38 million from venture companies—quite a task.

GlycoMimetics' current patent portfolio includes two main pharmaceutical patents targeting sickle cell disease and leukemia. It is currently in a Phase II trial for sickle cell drugs.

All their technology is homegrown within the company's own labs. It is located along the 270 corridor in Gaithersburg, one of the real high-tech areas of Maryland.

We have a lot of high-tech areas in our State, and I think what Ms. King represents is really one of the growth areas in our country for good jobs and innovation.

**STATEMENT OF RACHEL KING, FOUNDER AND CEO,
GLYCOMIMETICS, AND CHAIR OF THE MARYLAND LIFE
SCIENCES ADVISORY BOARD**

Ms. KING. Thank you very much and thank you, Chairman Vitter and Ranking Member Cardin, for inviting me to testify today.

And, thank you also for the opening remarks that you both made. I feel very encouraged by the perspective that you are bringing, the support of innovation, the critical recognition that we need balanced and bipartisan legislation that will continue to support entrepreneurship and small businesses. This is really critical and very important to biotechnology and to companies like ours. So thank you very much.

I run a company, as Senator Cardin said, called GlycoMimetics based in Maryland. We are focusing on developing drugs for unmet medical needs, focused initially on sickle cell disease and on leukemia.

And I have spent my career working in biotechnology, both in startup companies like these and on the venture capital side. So, from that perspective—from those perspectives, I have seen the really critical role that patents play in encouraging investment and how very important it is that we ensure a robust, dependable system.

So, based on my experience in those different settings, I can say that I think biotechnology is probably one of the most dependent areas of the economy on a robust patent system. And one of the reasons for this is that our patents are—we often have products that depend on very small numbers of critical patents.

So we do not have 20, 50, or 100 patents on our products. We might have 1 or 2 that are critically important for us to defend in order to bring our products forward.

And, we have to do that in a setting where we have got to raise millions of dollars over many years at great risk.

So the amount of money, the amount of time, and the amount of risk in our industry make it really critical that we have strong patents.

In our company's case, we raised about \$60 million through private venture capital. We had to raise that money to complete our initial study in sickle cell patients. We then had to do another major partnership with a pharmaceutical company to bring in more money. We raised another \$64 million in an IPO last year. So our own company's story is one of many years of long, risky investment.

And, if we are successful, it will probably take something like 15 years and tens of millions of dollars until we actually have a drug that could be available to patients. And, during that time we really, critically, have to be able to defend our patents.

If patents can be invalidated under overly broad criteria or if we have difficulty enforcing them, then it makes it very difficult for us to raise funds.

So I want to urge Congress as you look at issues related to patent trolls, I want you to also keep in mind the need to protect patent innovators, so to protect the people who actually generate patents in the first place, not to only look at abuses by patent owners but abuses perpetrated against patent owners and against innovators.

And, in particular, one of the things that is of a great deal of concern to us in the biotech industry is this new system of patent challenges called Inter Partes Reviews, which is really having a game-changing effect on our industry because so many patents can be invalidated under that process. Something like 80 percent of the challenges that are brought result in the innovator's patent being invalidated.

And, it is so bad now that people who have no standing are bringing these challenges because they are betting on the ability to invalidate these patents.

We have cases in our industry, for example, where hedge funds will short a biotech company's stock, file an IPR, make money when then the company's stock goes down as a result of the announcement of the IPR just having been filed.

I think that should be criminal. It is manipulation. It invalidates patents inappropriately. And, this whole IPR process basically sets a lower standard than the current district court standard has, which is very well-developed, with a lot of experience.

And we cannot—we are particularly vulnerable to that type of challenge. So I really think that needs to be addressed.

And so I am particularly appreciative of the STRONG Patents Act, and I want to thank Senators Coons, Durbin, and you, Senator Hirono, for sponsoring that Act. That would address a lot of the problems with the IPR case in our view and, I think, could be very important to continuing to support innovation in biotechnology.

So I want to make the point—obviously, I am biased—I think biotechnology is not like just any other business. It is a business that we really, critically, have to support because of the important work that we are doing.

We are not finished in developing cures for cancer, Alzheimer's disease, diseases like sickle cell. These are critically important needs that we need to continue to address in our society.

And I want to ask you to specifically be concerned about the role that patents play in biotechnology and to continue to support us.

Thank you.
[The prepared statement of Ms. King follows:]

Testimony of Rachel King, CEO

GlycoMimetics, Inc.

To the United States Senate Committee on Small Business and Entrepreneurship

Hearing on "Protecting Innovation and Entrepreneurship in Patent Reform"

March 19, 2015, 10:00 a.m.

Russell Senate Office Building, Room 428A

Summary of Testimony:

Chairman Vitter, ranking member Cardin, and members of the Committee, thank you for inviting me here today to testify on the subject of protecting innovation and entrepreneurship in patent reform. I am Rachel King, CEO of GlycoMimetics, a small publicly traded biotechnology company located in Maryland that utilizes novel and proprietary technology to develop treatments for diseases with high unmet needs such as sickle cell disease and blood cancer. I have spent most of my career working within the biotech industry, as an executive at two start-up companies and as a venture capital investor supporting the growth of a portfolio of such companies.

Based on this experience, I can attest that very few sectors of the nation's economy are as dependent on predictable, enforceable patent rights as is the biotechnology industry. Robust patents that cannot be easily circumvented or invalidated, and that can be predictably enforced against infringers, enable biotech companies to secure the enormous financial resources and tolerate the high levels of risk needed to advance biotech products to the marketplace. Because such risks and costs cannot usually be borne by any one entity alone, especially the small companies that make up the vast majority of biotech companies, biotech development depends heavily on licensing, partnering, and access to capital. And it is strong and reliable patents that enable us to engage in the partnering and technology transfer that is necessary to turn basic scientific discoveries into real-world solutions for disease, pollution, and hunger.

My own company's story is a perfect case study in how the biotech ecosystem works. It took GlycoMimetics seven years and \$60 million from several rounds of private financings just to complete our initial study of sickle cell patients; and another three years and a major partnership worth hundreds of millions of dollars with a large pharmaceutical company to advance our compound through a positive Phase II clinical trial. Based on this success, we were able to go public in January 2014, raising another \$64 million to further support our research and development and to advance our second program to try to treat certain blood cancers. If all goes well, a product may finally be available for patients in a few more years. That would be 15 years after the founding of our company, with tens of millions of dollars invested, and tremendous risks along the way.

I can say with absolute certainty that our ability as a small company to secure all of this financing and partnerships over more than a decade was possible only because of the strength of our patent portfolio. If patents can be invalidated under overly broad criteria, or if the ability to enforce them becomes limited due to excessive lawsuit filing requirements or undue delays or complications in obtaining discovery and moving a case through the courts,

third parties would be less likely to invest in or license the technology – and major sources of R&D funding would dry up for small companies while a cloud of uncertainty hangs over their patent portfolio. The result – patients waiting for the next new cure or treatment will have to wait longer, or may never get it at all. With all due respect, I would urge Congress to keep such considerations in mind as it attempts to address abuses of the patent litigation system by so-called “patent trolls.”

Congress also should focus not just on abuses *by* patent owners, but also those perpetrated *against* patent owners. In particular, Congress should reassess the new administrative patent challenge system known as Inter Partes Review (IPR), which is having a game-changing effect on the reliability of patents as a basis of biotech investment. Patents in IPR are being invalidated at rates so high – roughly 80% -- that the basic procedural fairness of these proceedings is increasingly being questioned. Based on this emerging data, hedge funds and other third parties with no commercial interest in the patents have figured out that they can extort settlements or otherwise gain financially from bringing, or even threatening to bring, patent challenges against critical patents of biotech companies – including by “shorting the stock” of such companies and then filing IPRs to drive down the stock prices and profit therefrom. Biotech companies can be particularly vulnerable to such abuses because they are small companies that often rely on just a handful of highly valuable patents to protect their products and massive investment therein.

In this regard, I want to express my support for the recently-introduced STRONG Patents Act sponsored by Senators Coons, Durbin, and Hirono, which would ensure that IPR proceedings are no longer unfairly stacked against patent owners.

Let me close with some sobering facts. One out of five Americans can expect to develop Alzheimer’s disease during retirement, and the risk of developing cancer is even greater. While much has been said about abuses in the patent system that drive up certain business costs, we must keep in mind that that same patent system encourages risk-taking and long-term investment in potential solutions for the biggest problems facing the generations to come: disease, hunger, and pollution. It is critical that the future path of our patent system continues to preserve the incentives for small business innovation that have made the United States the global leader in medical, agricultural, and environmental biotechnology.

Thank you again for the opportunity to present my views on this important matter and I am happy to answer any questions the Committee may have.

Introduction

By way of personal introduction, I am Rachel King, CEO of GlycoMimetics, Inc., a small Maryland-based company. GlycoMimetics is a publicly traded, clinical-stage biotechnology company that utilizes novel and proprietary glycobiology technology to develop treatments for diseases, especially those with high unmet needs. Since the company’s inception in 2003, GlycoMimetics has developed a robust, diversified product pipeline. The company’s mission is to continue to advance its pipeline, providing hope for patients with sickle cell, cancer, and other serious diseases.

In order to advance this mission, the company secured an initial round of private venture financing, known as Series A, in an amount of \$4.5 million. Over the next six years, we needed to raise an additional \$53 million in Series B and C financings to keep the company afloat as we identified a lead compound and initiated a Phase 1 clinical trial in late 2008. After completing this pilot study of our lead compound in sickle cell patients in 2010, we were able to secure a major \$340 partnership with a large pharmaceutical company to advance our clinical R&D program through Phase II, reporting positive top line data in mid-

2013. Based on these results, we were able to complete an initial public offering for our company in January 2014, raising an additional \$64 million to support our R&D pipeline. Our ability to secure all of this financing over more than a decade was possible only because of the strength of our patent portfolio.

Prior to joining GlycoMimetics, I was an Executive in Residence at New Enterprise Associates, one of the nation's leading venture capital firms. Prior to that, I spent 10 years with Genetic Therapy, Inc., through the company's early stage, initial public offering, and eventual sale to Novartis. After the sale, I was named CEO and ran the company as a wholly owned subsidiary. I received my B.A degree from Dartmouth College and my MBA from Harvard Business School.

I also currently serve as the Chair of the Board of Directors for the Biotechnology Industry Organization, the biotech industry's leading national trade association, as well as Chair of the Maryland Life Sciences Advisory Board appointed by Governor Martin O'Malley. However, my testimony today represents my own views, based on my experiences as an investor in and CEO of small biotech companies, and not necessarily the views of the organizations which I chair.

Background on the Role of Patents in the Biotech Business Model

Very few sectors of the nation's economy are as dependent on predictable, enforceable patent rights as is the biotechnology industry. Robust patents that cannot be easily circumvented or invalidated, and that can be predictably enforced against infringers, enable biotechnology companies to secure the enormous financial resources needed to advance biotechnology products to the marketplace, and to engage in the partnering and technology transfer that is necessary to translate basic scientific discoveries into real-world solutions for disease, pollution, and hunger.

Research and development within the biotechnology industry comes at a very high cost, and every idea that is funded comes with a much greater risk of failure than success. Investment thus is predicated on an expected return in the form of patent-protected products or services that ultimately reach the market. The typical biotech company does not have a product on the market yet, nor a steady source of revenue, and spends tens of millions of dollars on R&D annually. The biotechnology industry, as a whole, is responsible for well more than 20 billion dollars of annual research investment, and provides employment to millions of individuals nationwide. Virtually all of this investment is through private sector funding.¹ Developing a single therapy requires an average investment ranging from \$1.2 billion to over \$2 billion, and the clinical testing period alone consumes more than eight years on average.²

Such investments are not only expensive; they are risky. For every successful biopharmaceutical product, thousands of candidates are designed, screened, and rejected after significant investments have been made. The chances that a biopharmaceutical medicine will advance from the laboratory bench to the hospital bedside are approximately

¹ Moving Research from the Bench to the Bedside: Hearings Before the Subcomm. on Health of the House Comm. on Energy and Commerce, 108th Cong., 1st Sess. 47 (2003) (testimony of Phylliss Gardner, M.D) (<http://archives.energycommerce.house.gov/reparchives/108/Hearings/07102003hearing990/Gardner1579.htm>) ("The biotechnology industry is the most research and development-intensive and capital-focused industry in the world," noting that 98 percent of research and development investment comes from the private sector).

² Joseph A. Di Masi and Henry G. Grabowski, The Cost of Biopharmaceutical R & D: Is Biotech Different? *Manage. Decis. Econ.* 28: 469-479 (2007) (hereafter: "Di Masi and Grabowski").

one in 5,000.³ Only a small minority of candidate drugs even advance to human clinical trials, and most of those will never ultimately reach the market. For example, at the time human clinical testing begins, the odds that a biopharmaceutical compound will eventually receive FDA approval are less than one-third.⁴

Because such risks and costs cannot usually be borne by any one entity alone, biotech drug development depends heavily on licensing, partnering, and access to capital. Patents allow biotech inventions of great societal value to be passed or shared among parties best suited to unlock their potential at any given stage of development and commercialization – each contributing its part, each sharing the risk of failure, each increasing the odds that a product eventually reaches patients. Such sharing of risks, costs, and talents has been critical to the success so far of my own company, GlycoMimetics. Without strong and reliable patents, we would not have been able to secure the investment or partnerships that have kept our doors open for so many years as we seek to prove the safety and efficacy of our leading therapeutic candidates.

If patents can be invalidated under overly broad criteria, or if the ability to enforce them becomes limited due to an exceedingly high bar to filing a lawsuit or excessive delays or complications in prosecuting a case through the courts, third parties would be less likely to invest in or license the technology, and major sources of R&D funding would move elsewhere. The result – patients waiting for the next new cure or treatment will have to wait longer, or may not ever get it at all.

For these reasons, currently-pending patent litigation reform legislation is highly relevant to the biotech business model. A small or mid-sized biotech company that today decides to begin development of, for example, an Alzheimer's treatment must look a decade or more into the future. Long-term financial commitments will be required; several hundreds of millions of dollars will need to be raised; and development partnerships will need to be secured in a situation where the cost of capital is high and the odds of ultimate success are small. Because investment-intensive businesses can tolerate only so much risk, even moderate additional uncertainty can cause business decisions to tip against developing a high-risk, but potentially highly-beneficial, product.

This is not an academic consideration. Every biotech executive has stories to tell about promising experimental compounds that had very favorable medicinal properties, but were never developed because their patent protection was too uncertain. The injection of additional systemic uncertainty by, for example, making the enforceability of patents against infringers more uncertain can negatively affect which new cures and treatments may become available a decade from now.

The average American today can realistically hope to live into her or his eighth decade. At retirement, one out of five Americans can expect to develop Alzheimer's disease during her or his remaining years. The risk of developing cancer is even greater. While much has been said about inefficiencies in the patent system that drive up business costs in some sectors today, we must keep in mind that that same patent system encourages risk-taking and long-term investment in potential solutions for the biggest problems facing our world and the generations to come: disease, hunger, and pollution. Great care must be taken to ensure that we do not forget the patent system's longer-term benefits to society. It is critical that the future path of our patent system is one that preserves and maintains the

³ Secretary of Health and Human Services Tommy G. Thompson, Remarks at the Milken Institute's Global Conference (Apr. 26, 2004), available at www.hhs.gov/news/speech/2004/040426.html

⁴ Di Masi and Grabowski, at 472-3.

Incentives for innovation that have made the United States the global leader in medical, agricultural, and environmental biotechnology.

Views on Patent System Reforms

As a CEO of a small business, I am sensitive to the concerns that have been raised by some small business owners about the negative impact on their businesses from the meritless assertion of overly broad and questionable patents by so-called "patent trolls." Small businesses have fewer human and financial resources to deal with such legal maneuverings, and they distract management from its focus on advancing the company's R&D or operations. There are real costs to such abuses, and Congress should consider how best to protect small businesses from them. In particular, there are several legislative proposals designed to curtail the sending of indiscriminate, bad faith patent demand letters, enhance transparency around patent ownership and enforcement, and protect innocent consumers or end users from infringement suits based on their purchase and use of technology or products manufactured by others.

But Congress also must recognize that small businesses often must defend their inventions and their companies against very real threats posed by larger corporate infringers. And when they are forced to do so, it is critical that the litigation system operate in a cost-efficient, timely, balanced, and fairly predictable manner. Otherwise, investors and partners will simply dry up while a cloud of uncertainty hangs over the small company's patent portfolio.

In this regard, it has become clear that the PTO's Inter Partes Review (IPR) system of administrative patent challenges is having a game-changing effect on the reliability of patents as a basis of investment in the biotechnology industry. Patents that are involved in district court litigation are now routinely subjected to concurrent administrative litigation in the PTO, where they are being invalidated at rates so high that the basic procedural fairness of these proceedings is increasingly being questioned. This creates a great risk of duplicative proceedings and inconsistent outcomes, as alleged infringers seek to gain advantages or leverage over patent owners that would not exist under district court litigation alone. For example, the way claims are interpreted and other procedural protections are less favorable to patent owners in the PTO administrative setting.

In addition, third parties with no commercial interest in the patent or field to which the patent pertains have figured out that they can extort settlements or otherwise gain financially from bringing, or even threatening to bring, patent challenges against critical patents owned or licensed by biotech companies. Biotech companies can be particularly vulnerable to such extortion because – in contrast to most high-tech companies – biotech companies often rely on just a handful of highly valuable patents to protect their products and massive investment therein. This already is being seen by several biotech companies, who have been approached by third parties threatening to file IPRs unless the company makes a substantial financial payment to them. And a hedge fund manager recently made news by announcing his plans to "short" the stocks of more than a dozen biotech companies and then file IPRs against their most valuable product patents in an attempt to drive down their stock prices. The first such IPR petition, filed by this hedge fund in February against Acorda Therapeutics (a mid-size biotech company which brought to market an innovative treatment for multiple sclerosis) caused the value of the company to drop by over \$150 million in one afternoon. A second IPR has now been filed against this same company, and other hedge funds are starting to get into the IPR business as well.

Such abuses of the PTO administrative review system are attractive and growing because, as is quite clear to those following the evidence to date, the rules governing these

proceedings are unfairly stacked against patent owners in many ways. In particular, the PTO uses a claim construction standard that is much broader than that used in district court, and has limited the ability of patent owners to file narrowing amendments to preserve their patent claims. This is why another hedge fund recently filed an IPR against a biotech company named Allergan, even though the patents at issue were upheld in district court litigation and on appeal. The hedge fund specifically notes in its PTO filing that it believes these same patent claims would fall under the PTO's broader claim analysis – a result that, to me, would be incredibly unfair after four years of court litigation on the same issues.

I don't believe that Congress intended for the IPR system to be used in this abusive manner. To this end, a number of productive proposals to reform the IPR system have been circulated that deserve this Committee's consideration. Specifically, the STRONG Patents Act, as recently introduced by Senators Coons, Durbin, and Hirono, would address such IPR abuses by, among other things, harmonizing the PTO's standards with those used in district court and thus minimizing incentives to "game" the two different systems; allowing greater patent amendment rights; and preventing the improper use of the proceedings by those with no legitimate interest.

Congress also should avoid making changes to the general patent litigation system that would raise the cost of or delay patent enforcement, as doing so would particularly impact small businesses most negatively. For example, efforts to vastly increase the amount of detailed information that must be included in every complaint for patent infringement, or proposals to delay discovery against accused infringers, would make it more difficult for small businesses to protect their inventions in a timely and cost-effective manner.

I also am concerned about several proposals that would grant the authority for a court to join third parties with a financial interest in the plaintiff or patent at issue – such as investors, licensors, or commercial partners – to the litigation as unwilling co-plaintiffs to pay the other side's costs, unless they renounce all interest in the patents at issue. The net result of such joinder provisions would be to create many additional encumbrances, especially for small businesses, that would make partnering, collaborations, and the enforcement of patents needlessly more expensive and more complicated. Business partners, patent owners, financing companies, and others who engage only in arm's length business with the patentee should not be subjected to potential liability or forced to renounce their rights just to avoid being dragged into litigation between two other parties.

While there have been efforts to limit the applicability of some of the above litigation changes to cases not involving real commercial competitors, the language is often imprecise and fails to recognize that not all patent litigation in biotechnology would fall into any such exceptions. In fact, the vast majority of American biotechnology companies are far from having a product on the market, yet depend critically on the enforceability of their patents to attract funding, to enter into development partnerships, and to advance their technology. A solution must be found for such businesses as well, businesses that are actively trying to develop, and seeking investment to further develop, patent-protected inventions.

Conclusion

I want to thank the Committee for the opportunity to testify today and explain a view of the patent system from the perspective of a small, innovative, investment-intensive biotech business. I urge the Members of this Committee and the full Senate to ensure that adopted reforms are truly targeted at abusive practices – both by patent owners and against patent owners – and do not have negative, unintended consequences for the vast majority of legitimate patent owners or licensees who simply are seeking to protect and enforce their patents in good faith.

Senator CARDIN. Well, thank you for your testimony.

Mr. Craig Bandes is President and CEO of Pixelligent Technologies. It is a Baltimore-based company that creates nano materials that allow more light to be derived out of LED light bulbs, panel display, and optical components.

Pixelligent started with 9 employees and currently has 42 employees. They have received funding through both government and private investment sources during the course of their development.

Pixelligent holds 25 patents, spends hundreds of thousands of dollars each year developing its patents and attorneys to ensure patent protection.

They currently have an international reach and are looking to start distribution in Europe soon.

It is a pleasure to have Mr. Bandes here.

As I explained earlier, in Maryland we are proud throughout our State of having a lot of high-tech type operations in the Baltimore region and the Washington region and throughout our State.

Mr. Bandes.

**STATEMENT OF CRAIG BANDES, PRESIDENT AND CEO,
PIXELLIGENT TECHNOLOGIES**

Mr. BANDES. Thank you, Senator Vitter and Senator Cardin, for the opportunity to come speak today.

There has been a lot of discussion on the panel already, which I will save us all from repeating.

Our company is very focused on—and patent protection is critical to our ultimate success as a company. We believe when we think about patents that there is both the focus on protecting patents and protecting innovation but also accelerating the innovation that we have here in the United States.

So, again, my name is Craig Bandes. I am the CEO of Pixelligent Technologies.

And the materials that we make here in Baltimore enable us to take materials, put them into a number of devices, and materials that are commonly used in electronics today. Our main focus is in LED lighting, which is sweeping the world really in next-generation lighting, and OLED lighting, where using our materials makes those lights more efficient, gets more light out, and actually creates better economics.

Our materials also go into things like touch screens to help improve scratch resistance and overall image quality.

The company has been funded today through a combination of private equity funding, some venture but a lot of what you would call “super angel” type of investment, about \$23 million to date, and we also have received about \$11 million of funding from government programs.

All of this funding has really gone to initially focus on building a team of technologists, manufacturing experts, sales and marketing folks, but it is all based on the core of our IP.

Ultimately, when we go to market and we are selling to big multinationals, which include today 3M and Dow Chemical and Samsung and OSRAM and LG, on a global basis, the first thing they do is take a sample and see if it works. Then they figure out, okay, well, the economics work to get a product into their system.

All that is very hard and takes anywhere from six months to a year. So it is easier said than done.

And then, if you get through all of that, you then go through a process of having to show that the IP they are going to incorporate, our IP, into their products will not infringe when they go to the marketplace. And it goes through a pretty exhaustive process called the Freedom to Operate.

So here is where the challenges come in, where invariably just because of how many technologies there are in our space—nano has become a very active space for patenting—that they will find something that may give them some concern.

Our job then is to show them that we can beat back that concern. The best way we can do it is having very strong patents that are defensible and having a broad set of patents that show they really cover the landscape and the areas that we focus on, which are making the material, how we coat that material, how we put it into our customers' material, and then how we manufacture that material.

And we have to be able to prove that we have protection really across that to convince someone like a 3M, for example, because ultimately if there is a problem, someone that would come after the company more will focus on a 3M with much deeper pockets than a Pixelligent which is just now starting to commercialize.

So our focus really is making sure that the patents that we have and we put into the Patent and Trademark Office come out and are strong and defensible.

One of the challenges that we see today is less because we have not been directly involved in any kind of troll situation. And I think the panel here has covered the universe on the issues there, and a balanced approach clearly is the best answer.

But our focus is when we file a patent it takes 2.3 years to get that patent out of the Patent and Trademark Office. There are currently 600,000 patents in backlog in the PTO. You think about the amount of economic value and real value that is being held up in that.

Now these folks work hard. Examiners work hard. They care about their jobs. There just are not enough of them.

And when you think about the PTO, it is one of the few agencies in the government that actually self-funds and actually makes what we call in our world a net profit—about \$300 million addition, or 350, on almost every year beyond the \$3 billion they get appropriated to go spend. And then there is a battle over who gets that money.

Imagine if you reinvested that money like a business would, to create a more efficient system, bring in more people, and drive more value.

Not only will there be more value and more fees—and it is a great strategy because you pay once and then you pay forever, or at least the 23 years while your patents are active, but the ability to unlock all of that innovation so that I do not have today 23 patents pending.

Today, maybe I only have 10 patents pending, which means when I go and I talk to 3M or Dow or Samsung or whoever, I am

saying we have a broader portfolio of patents that are actually issued and we can defend them versus pending and waiting.

So I would encourage this Committee to think about this concept of innovation and protecting and accelerating patents beyond just the issues of litigation.

Thank you.

[The prepared statement of Mr. Bandes follows:]

Written Statement of Craig Bandes, President & CEO of Pixelligent Technologies

Small Business & Entrepreneurship Committee Hearing

March 19, 2015

Thank you Senator Vitter and Senator Cardin for the opportunity to speak today on protecting innovation and entrepreneurship in patent reform. I believe that protecting and finding ways to accelerate innovation are critical in supporting the high tech entrepreneurial community in the United States.

My name is Craig Bandes and I am the President and CEO of Pixelligent Technologies, an advanced materials company that is leveraging nanotechnology to deliver the next generation of high index materials for Solid-State Lighting and Optical Components and Films applications. Our proprietary nanomaterials are incorporated into LED lights and OLED lighting to dramatically increase light output and into touch screens to improve scratch resistance and improve image quality. We currently have 13 issued, 2 Allowed, and 22 pending patents, 2 trademarks, and numerous trade secrets. We consider our intellectual property to be one of our most valuable and critical assets. In 2014, we spent just under \$200,000 in patent filing and legal fees and we expect to spend over \$200,000 in 2015. Pixelligent is currently commercializing our technology after 10+ years of research and development, application development and manufacturing scale up. This development has been supported with over \$23M in equity financing and \$11M in Federal grants from NIST, DOE, NSF, and DoD. We are currently recognized throughout the world as one of leading emerging electronics materials companies, working with companies such as 3M, Dow Chemicals, LG, Samsung, Sylvania Osram and 50+ others. Our main competitors are in Asia and are billion dollar multinationals.

Our competitive advantage is based on the quality of our materials, including how they are synthesized, coated, incorporated and manufactured, and in turn the patents that protect all of these processes and the resulting applications. As a company, we spend an enormous amount of time developing intellectual property strategies to protect our novel and powerful nanotechnology and rely heavily on the quality and breadth of our patents to protect our competitive advantage.

One of the biggest challenges that faces an emerging technology company such as Pixelligent, is convincing large multinationals to incorporate our technology into their products. This initially entails getting them to purchase a sample of our products where they can demonstrate the properties and value of our material for themselves. Once successful with this step, the conversation moves to our ability to provide the material at the right scale and at volume pricing. The last hurdle then comes down to the customer performing a patent search in order to make sure that if they are successful in

developing a new product around our material, that they will have the Freedom to Operate (FTO). At this stage our customers will invariably find some prior art that may or may not be relevant and/or a concern. If they are not convinced they can bring the product to market without the risk of potential patent liability, they will kill the project. This is clearly a step in the product development and acceptance process where we can exert the least amount of influence and Pixelligent cannot afford to provide the same kind of indemnities larger companies are capable of providing. It all comes down to the quality and the number of patent(s) that we have in our portfolio that enable us to defend our proprietary and competitive position and close the sale.

As with any company where intellectual property is a critical component of their overall business strategy, Pixelligent relies heavily on the PTO and the experience of the patent reviewer, the timeliness of review, and the ultimate quality of the patent issued by the PTO. There is currently a great deal of time being dedicated to the Innovation Act and patent trolls, however, I believe that the current backlog of patents to be reviewed, which as of February 2015 was just under 600,000 with an average review time of 2.3 years, is an issue that is also worthy of being explored and addressed. The vast amount of potential market and real economic value that this many potential patents represents is an enormous opportunity for this country, and one that could dramatically improve the competitive landscape for the high tech entrepreneurial community in the U.S.

Thank you again for the opportunity to speak today and I look forward to answering any questions you may have.

Craig Bandes Biography

Craig Bandes, President & CEO of Pixelligent, has over 20 years of combined experience as an entrepreneur, CEO, and Angel investor, building companies in the technology, defense, and professional services industries. Since joining Pixelligent in early 2008, he has restructured the company, enabling it to successfully emerge from a reorganization process, refocused its product strategy, and raised nearly \$23 million in equity funding. In addition, the company has been awarded over \$11 million in federal grant programs, and has entered into numerous product development partnerships with technology leaders and Fortune 100 companies. Prior to Pixelligent, Mr. Bandes was the President and CEO of Global Secure Corp, a high-tech homeland security company, which in just over four years grew from a start-up to 250+ employees, achieved revenues of over \$40 million, completed three acquisitions, raised over \$25 million, and filed for an IPO. He was a co-founder of Focus Technology Consulting, which ranked #14 on the 2008 WashTech Fast 50. Mr. Bandes has negotiated over \$300 million in financial and strategic transactions in the United States, Asia, and Europe and he sits on numerous company boards. Mr. Bandes serves on the advisory board for the Nanobusiness and Commercialization Association, the leading nanotechnology association. He is a graduate of Babson College.

Chairman VITTER. Okay. Thanks to all of you.

We will now have a round, a five-minute round of questions from the members here. I will start and then Senator Cardin, and then we will alternate sides using the “early bird” rule.

Mr. Winwood, you mentioned that universities conduct 15 percent of all R&D and over 50 percent of all basic research in the U.S. and spend over \$65 billion in research funds, \$40 billion is from Federal sources, and that results in all sorts of inventions and patent applications.

How does abusive patent litigation affect universities now, number one?

And, number two, you specifically referenced mandatory joinder and presumptive fee-shifting as provisions you would oppose in any patent bill. Why don’t you elaborate on that, and why would this be bad for universities?

Mr. WINWOOD. Thank you, Chairman Vitter.

Yes, how does this affect universities now? I think our primary area of interest here is our relationship, our very close relationship, with our startups and our small businesses, and the fact that most university technology licensing offices run on a very, very narrow margin.

We are determined to help bring our technologies to the private sector, who can move it on into the marketplace for the benefit of consumers.

When it comes to taking that extra risk of maybe being exposed to some of the abusive litigation, our universities simply do not have the depth of pocket to make that happen.

And so there is a reluctance to engage, presumably, in this pursuit of moving technologies out to the marketplace if we have the threat over our head of this kind of abusive litigation, if we are in the firing line, if you will, along with our licensees and startup companies.

So, in particular, the fee-shifting and joinder provisions cause us great concern. Imagine following the joinder provisions through whereby anyone with a financial interest in the outcome of a litigated procedure could be joined.

So the universities certainly, but as you know, our universities share our royalty revenues with our inventors. These may be faculty members. These may be students. They may be post-docs. I suspect that there would be a chilling effect on disclosure to my office, and many other offices, if those inventors were aware that they might suddenly be joined into a suit with—maybe it is a hedge fund at the helm of this thing, as mentioned by Rachel.

So there is a real chilling effect, I suspect, that is possible on participation from our universities and our inventors because we just do not have the capacity in this kind of combat. We run on very, very narrow margins to keep these things moving into the private sector.

Chairman VITTER. Okay. Thank you.

And, Mr. Molino, can you give some thoughts about how ongoing activity addresses some areas of abuse and if you think it is adequate for those areas or not?

For instance, there are ongoing judicial conference changes related to the Federal Rules of Civil Procedure. What is your thought

about that work and how it will properly address those possible areas of abuse or not?

Mr. MOLINO. So thank you for the question.

We are very encouraged by the judicial conference's work. However, we do not think that the judicial conference is going to address the abuses that actually happen in patent cases.

I think the judicial conference's work is more based on overall litigation. While that will be helpful, there are certain things in patent cases that only occur with patent cases, such as a Markman decision.

No other area of law has something called a Markman decision, where a court actually issues an order defining what the scope of the patent is. Because of that, oftentimes, once you have a Markman order, the scope of the case narrows and the cost of discovery narrows.

We do not believe the judicial conference is going to address that. So I think that while the judicial conference is doing a lot of good things they certainly are not going to be addressing the specific issues to patent law.

Chairman VITTER. Okay. Thank you.

And going back to Mr. Winwood, some small inventors have raised the issue of a so-called integrity loophole cause by a court decision denying judicial relief to patent holders whose patents have been subject to fraudulent or sham petitions for reexamination at the Patent and Trademark Office.

Do you agree that this is a problem? Would you support Congress restoring a judicial remedy specifically to that?

Mr. WINWOOD. Yes, Chairman Vitter. Clearly, there are areas of disagreement regarding patent reform, but one area where we believe everyone should agree is that fraud cannot be tolerated, or deliberate abuse of patent reexaminations, or post-grant reviews.

Applicants are held to a very high standard of honesty in dealing with the PTO, or else they risk losing their patent rights. So we believe that third-party requesters should be held to a similar standard. The patent owner currently has to be truthful, but a third-party requester can basically commit fraud with no financial penalty due to some recent court decisions.

So it appears the door is wide open for unscrupulous parties around the world to abuse our system, knowing that it will take the patent owner years and cost them hundreds of thousands of dollars of effort just to defend their patent in the U.S. PTO.

So this, as indicated by some of my small business colleagues here, is time and money that they just do not have and cannot afford to fight such challenges. It can really deny them access to desperately needed venture funding while there is a cloud over the patent, as referenced earlier, or delay entry into the marketplace for valuable new drugs, medicines, and so on.

So we think that there should be an opportunity to restore traditional rights of patent owners to sue for damages in these cases and that will close this integrity loophole, if we are able to do this, and particularly prevent it being used against small companies who would seem to be very vulnerable in this regard. And, obviously, many of those small companies are our startups and licensees.

Chairman VITTER. Right. Okay. Thank you.

Now, Senator Cardin.

Senator CARDIN. Well, thank you, Mr. Chairman.

Again, I thank all five witnesses for your time here today. It is extremely helpful to us.

Your testimony recalls some of the hearings that I attended when I was on the Senate Judiciary Committee, and they were long hearings, and it is a technical field.

But I cannot imagine the fear that a small high-tech firm must go through if they receive a letter where they do not know really the source of who is behind it, who threatens their existence, challenging their legitimacy to the work that they have done.

And it is very interesting; there are two sides here, and I am not sure why there are two sides to this debate because both sides agree that we have got to protect intellectual property and both sides believe that fraudulent activity and patent trolling is wrong.

So I am going to start with the two business owners that are here. Could you just highlight what you think the most important change could be in our patent laws to protect the work that you are doing?

There are two different companies here. One relies on basically one patent to advance a drug. The other is advancing a final product that will contain what you are doing, which will rely upon a lot of patents, ultimately.

What is the one change we could make, or the two changes we could make, in the patent laws that would protect your type of work, give you better access to capital so that you can get more predictable funding, and yet, avoid the problems of fraudulent activity or at least make it less vulnerable?

Ms. KING. I can begin by answering that I would suggest reforming the current problems that we have under the IPR system.

And, as I mentioned in my testimony, I think that the fact that a hedge fund could come out of nowhere and short a company stock, knowing that they are about to file an IPR, which then drives the company stock down. I think that is criminal, and I think that is an abuse that really needs to be corrected.

One way to correct that is to address the issue of standing because that is the case where a hedge fund would have no commercial standing to bring that case.

But the basic problem, I think, with the IPR system as it currently is, is that it currently sets a lower standard than the district court current system sets. And so—and we can see that because there is so much abuse that has started now, where people try to bring these challenges through that system.

So, in my view, that would be the critical thing that we would need to correct.

Senator CARDIN. Thank you.

Mr. Bandes.

Mr. BANDES. So I would say in the—two areas.

One is, you know, in business there is nothing that will make you more nervous, or an investor more nervous, than uncertainty. And so having a blind letter that does not really tell you who it is and what the actual rights are they are saying you may be infringing on is an impossible battle.

So there should be full disclosure. If you are going to get contacted and say that there may be a patent issue, they need to be forthright in telling you what the issues are so you can address them early.

I would say the second piece is—you know, I read this a little bit, and I think it was in one of the acts, and I have read many in the past few days—about the concept of loser pays.

I mean, there really is no risk. You know, if you are a big fund and you are going after a small company, you know, part of what you are trying to do is just bleed them dry. You know, you do not have the resources, and so you can play bully tactics.

But if there is a chance that if they lose they have to pay up for all of the costs involved in that case, then maybe they think a little more about it before they just, you know, send a letter and try and use bully tactics.

Senator CARDIN. I think that, Ms. King, your suggestion is one that could be addressed rather quickly.

I think the points that you raise, Mr. Bandes, are more complicated because the judicial system is not always amenable to the statutes we pass as to how they enforce. So it is not as easy to deal with some of the issues you did.

Several of you mentioned the patent office itself. How effective is the patent office? Do you think they have the resources they need in order to expedite this process?

You mentioned something about hundreds of thousands of backlog.

Mr. Schmidt.

Mr. SCHMIDT. Yeah, 600,000 is the backlog.

And you should be very thankful for your 2.3 years because most of ours are 6 years and over; we have got some that are 8 years now, that are pending. So this means things do not get commercialized as timely as they could. It is an extreme problem.

So, right now, we have \$1.7 billion that has been diverted from the patent office that could be paid for, you know, better examiners, more qualified examiners, and more time for an examiner versus roughly a week to be able to—or, pardon me, a day to be able to look at a patent and examine it and be able to rule on it, which means almost everything gets rejected the first time through.

So you submit an application, and if it is not rejected you are just shocked.

So, you know, this is all because of this huge diversion, what I call the invention tax on inventors that, you know, Congress and the system extracts from us and then uses the money for something else.

So just letting the patent office keep their own money would be a huge benefit to be able to plough back into the system.

Senator CARDIN. Thank you.

Thank you, Mr. Chairman.

Chairman VITTER. Okay. Next, we have Senator Peters.

Senator PETERS. Thank you, Mr. Chairman, and thank you to our panelists here today.

Certainly, a very important topic. There is not anything more important for the productivity of this country than to have innovation

that is the driver of economic well-being for everybody, middle-class families, and everybody in this country, and you are a big part of that.

And I appreciate this discussion because this debate is going to be important for us to move that forward.

I just want to pick up on some of the comments on the patent office and the backlog because I think that is very significant.

Mr. Bandes, I appreciate your comments. This is not about just litigation. We also have to make sure we are moving this through the process.

And I am happy, as the Senator from Michigan and Detroit, we actually had the first field office of the U.S. Patent Office in Detroit. I want everyone to know that. It was not in Silicon Valley. It was not in the Research Triangle of North Carolina. It was in Detroit, Michigan, because of the work that we do.

But it is a significant problem when you have a backlog of 600,000 cases now, 2.3 years.

When I was in the House, I actually led a letter to try to deal with this tax, which it is; it is an inventor's tax.

When we had the sequestration, the sequestration actually funneled money away—these across-the-board cuts that then took the seed corn, which is the patents, away from it.

So I would just like a yes or no from each of the panelists. Do we need to have—the Congress has to put in law that we do not need additional congressional action.

This is a user fee. All of these resources need to be applied to the patent office. That is probably one of the top priorities as we are dealing with this issue. Would all of you agree this would have a significant impact on our ability to be a leader in patents?

We will start with Mr. Winwood, just yes or no or a brief comment.

Mr. WINWOOD. Yes, I would agree with you it is a big problem.

Mr. SCHMIDT. Yes, we are supportive of that.

Ms. KING. Yes, I would agree.

Mr. BANDES. No question.

Senator PETERS. I have never found anybody against it.

[Laughter.]

So this just approves that.

So, Congress, we need to act on this, and I think this has got to be at the top of our priorities.

Next, what I want to do is go to the litigation aspect and to Mr. Winwood.

Since the House passed the Innovation Act, the judiciary has made some progress towards patent litigation, and I think some of you have referred to that, particularly on fee-shifting, where the Supreme Court decisions have led to fees being awarded in more cases than prior to those decisions.

However, Judge Gilstrap, who had about 20 percent of all patent cases last year filed in front of him, said in a recent Law360 article that Highmark and Octane does not really change much.

He said, "I really do not see it changing what we would have determined was appropriate for the award of fees even before the case came out."

He also said, "I do not think it changed the internal dynamics of what judges like me or my colleagues would be convinced is exceptional but made it clear we have the option at our disposal."

So you, Mr. Winwood, have articulated a concern with the proposed fee-shifting position.

And I am concerned that the decision, the Octane Fitness decision, may not have provided sufficient guidance for some of patent litigation.

So, if you could talk maybe specifically about language in the bill that you particularly find problematic, if that is possible.

And, what if the potential fee-shifting role was not presumptive but, rather, we just provided the court with some additional guidance on how to deal with fee-shifting? Is that something you think may make some sense?

Mr. WINWOOD. First of all, thank you for the question.

Yeah, I am not an attorney. So I am not going to give the specificity that you may be looking for in that particular language.

But I do believe that we want to make sure that this is a discretionary and appropriate shifting rather than presumptive, which I think would really tend to persuade most universities and startup companies that they cannot engage in these activities.

And this is our main fear, that if this is sort of a mandatory aspect of any engagement, then our boards of trustees and supervisors will simply say we do not have that capacity.

So I think the language, as I understand it, is a little beyond what we would be comfortable with in the higher ed associations community, and we prefer to defer to what the judges have set out as discretionary decisions to levy costs as they see appropriate in justified cases.

Senator PETERS. Well, if the judge, as I mentioned, who I quoted, reviews 20 percent of all patent litigation cases, does not believe that the Supreme Court has made a substantial change, do you agree that there might still be some work that should be done by Congress in that area?

Mr. WINWOOD. It is quite possible that there is work to clarify how this should be implemented.

Senator PETERS. Very good. Thank you.

Thank you, Mr. Chairman.

Chairman VITTER. Okay. Next, we have Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you all for being here today.

You know, when we passed the America Invents Act in 2011, one of the selling points was that that was supposed to expedite the patent process. Have we seen any improvements as the result of that legislation in the backlog of patents?

I am up for anybody who would like to address that.

Mr. BANDES. The data would say we may be moving in the right direction, but it is, you know, a slow-turning barge. I think it is—the backlog has been running around the same level, in the 600,000 range, for the last 3 or 4 years.

There is a goal, I think by 2019, to go from 2.3 years to 2 years or 23 months.

But I think if you pass an act but do not give the resources to deliver on the changes that that act is trying to enable, you are tying their hands.

So, you know, back to the innovation tax that we are talking about here, you know, we are all paying fees into it. And, ultimately, why that should not be reinvested in PTO to bring on more resources and more examiners does—you are not going to fix it if you keep taking the resources away.

In fact, you should be doing the opposite. You should be trying to find ways to put in more resource because you actually see a significant economic return on those investments.

Senator SHAHEEN. Anyone else want to respond to that?

I mean, I certainly agree with that and agree with the point that Senator Peters was making, that the resources are there; we need to use them for innovation and to keep the patent system moving.

One of the challenges—as someone who is not an attorney, who is dealing with a very technical issue, one of the challenges I have—coming from a small state where we have a number of large businesses, technology businesses represented, but we also have a lot of innovation in our small businesses—is balancing what the larger firms say they would like to see with respect to patent reform versus what the small businesses say with respect to patent reform, and they are not on the same page.

So I do not know if—and certainly, the university, or main research university, is also not on the same page.

So I do not know, Mr. Winwood, if you have any—as someone who represents an academic perspective, a research perspective, who I think may generally be viewed as having less of an ax to grind on this issue, if you have a view about how we balance those interests.

Mr. WINWOOD. I think it really is—and thank you for asking me that.

I think it is really important to balance those issues; I think between the divide, whether it is between large companies and small companies. It may actually be between different industries as much as it is between size of company.

You have heard a little bit about the length of time it takes to get a patent issued.

Senator SHAHEEN. Right.

Mr. WINWOOD. And I think while the hundreds of thousands of backlog cases is certainly serious, it varies between art groups within the office.

I think, Bob, you recognize that within different groups you might wait six or eight years to get a patent issued; others may be much faster than that. So there is a massive imbalance.

And when you then look at—I think Mr. Bandes referenced taking 6 to 12 months to do a proof of concept study.

Well, I think if Rachel could do a proof of concept study in 6 to 12 months she would be a very happy person.

The two sides of the industry coin are very different. So I think that is probably one of the areas that really leads to some of these perceived frictions.

What I wrote down earlier in the testimony here was we are in raging agreement about almost everything except for how to implement it because I think we all are opposed to patent—

Senator SHAHEEN. Sounds like Congress.

[Laughter.]

Mr. WINWOOD. Yeah. I will let you say that and not me.

But we are in agreement that abusive behavior is bad.

And I think whether you are a large or small company, abusive behavior is inappropriate, is wrong, and should be stymied and corrected, if necessary by congressional action.

But do not make that action an impediment to those of us who are trying to push our technologies from the very, very fundamental and basic research level out to companies such as the ones represented here along the panel with me.

That is the key thing to do—balance and target.

Senator SHAHEEN. Yes, I think addressing abuse is the critical issue, and I acknowledge the difficulty in balancing these concerns.

And I think we—you know, we live through this too when we try to make our own points. We all need a strong system.

And I think what happens often—you know, you pass a law, and then we see the unintended consequences. So if you could go after the abuses, I think we could all benefit.

And, thank you.

I am almost out of time, but I just wondered; in 2014, the Patent and Trademark Office launched an online tool kit to help consumers and mainstream retailers deal with patent trolls. Is anybody familiar with this effort?

Have you heard of anybody using it?

Do you think it would be helpful? No?

Mr. Molino.

Mr. MOLINO. So I am aware of it, and I think it is a helpful tool because one of the biggest things that patent abusers do is focus on those that are not educated about the system and take advantage of that. So any education that we are doing for smaller businesses, retailers that do not usually involve themselves in the patent system I think is a very positive thing.

Some of our members have used it, our smaller members, but it is a positive thing.

Senator SHAHEEN. Mr. Schmidt.

Mr. SCHMIDT. Well, one of the things we need to remember is this is all about how do you make sure you can try and invalidate patents. The entire U.S. PTO system there is to say, you know, we want to keep people and defend them from patents that we are issuing.

There is nothing there that says we want strong patents and we want to enforce it. There is no balancing. There is no balancing in any part of H.R. 9 to be able to say we would like strong patents.

It is all about how do we take away the rights of patent owners, how do we eliminate these, you know, smaller patents. And this is just very bad for small inventors.

The whole thing with the fee-shifting, it is like I do not think anybody understands.

When a big company says, oh, you have got to pay \$5 million to that thing, well, you know, let's take it out of the petty cash thing.

For me, it is I not only lose my company. They then take my house. When they take my house, they take my spouse, and my children go with it. I am betting my entire life on a patent.

And this is just, oh, it is fee-shifting. You should be able to do this.

Well, I am submitting myself to, you know, the problems of the court who may go any way. So I cannot enforce my own patent.

So Congress is telling me, Schmidt, you are too poor to invent. Stop inventing. Stop inventing.

Senator SHAHEEN. But you are speaking to the House bill. You are not speaking to the effort to educate.

Mr. SCHMIDT. Yes, that is absolutely correct.

And since we have two-thirds of the Coons-Hirono bill, I would like to thank you both for your support of that because you obviously have seen the light. Thank you.

Senator SHAHEEN. Thanks very much.

Thank you, Mr. Chairman.

Chairman VITTER. Great. Next is Senator Hirono.

Senator HIRONO. Thank you, Mr. Chairman, for holding this hearing.

And as long as I believe that two out of the five panel people have read the STRONG bill, I would like to know whether the other panelists have also read the STRONG bill.

Okay. Good. Then I would like to ask what your view is about the STRONG bill because as one of the supporters of the STRONG bill we obviously are against patent trolls, but we would like to present a balanced approach to how we are going to make those changes.

So I would like to ask each of the witnesses, very briefly, if you think that the approach represented by the STRONG bill is a good approach.

Go ahead. We will just start from Mr. Winwood.

Mr. WINWOOD. Yes. Thank you, Senator.

Yes, the higher education associations, in general, have written and supported very strongly the legislation that was introduced by yourself, Senators Coons and Durbin recently.

We do support this targeted, balanced approach. We think it really hits the right way for doing this, to let the FTC take care of these issues rather than burden or really mangle the patent system, which we believe is really the great strength of the U.S. economy and innovation system. So we are very supportive of it.

Mr. SCHMIDT. Again, thank you very much.

The Small Business Technology Council, the 5,000 firms that participate in the SBIR program, we can take your bill just as it is. It is much better than any other alternative we have seen in the past.

However, there are some other things that, you know, since we are doing legislation, that I would love to see—is the return of the one-year grace period. This is a disaster for America's budding scientists and engineers.

Out of—a group of 150 patent attorneys were asked, can you explain whether you have a grace period or not? No one would raise their hand to be able to respond to that issue. It is so unclear as to whether we have a grace period in America.

And the only person that would dare to answer said, yes, I tell all my clients there is no grace period.

So that is gone in America.

And I have had 5 different people come up to me that had gone to inventors fairs or science fairs dealing with 15- and 17-year-olds, and they are telling them: Why are you here? You should not be presenting your material. Stop talking about this.

And so this is squashing innovation. So that is number one.

Number two, patentable subject matter. Since the Supreme Court cannot decide what is patentable subject matter, somebody needs to be able to help them. So that is a Section 101, which is—the first one with the grace period was 102. This is Section 101.

The third thing is greater elasticity for punitive behavior.

So since the Supreme Court cannot tell me whether my patent is valid or not, or has trouble with it—obviously, they do at the end, but there is great concern—how am I supposed to know as a little inventor of whether this is patentable or not?

And all of a sudden I fall into this trap. I have sued somebody, and now I get my patent invalidated. I did it in good faith. I thought I was on right standing. And all of a sudden, you know, I go through my lose my house, spouse, children routine. And you know, that is a problem.

And so I am looking for a get-out-of-jail card for honest people. So that is the third thing.

And then, finally, there should be a balance between plaintiffs and defendants because the whole way these other bills are all done it is all on the—you know, it all protects the infringer rather than the patent enforcer. And so I am looking for a balance there.

Thank you.

But other than that, we can take everything the way it is.

Senator HIRONO. Mr. Molino, we are running out of time. So if we can—

Mr. MOLINO. We are unable to support it right now.

We think that the AIA has just been implemented basically about two years ago. We are seeing some issues pop up, but I think it is too early to tell if those are going to be systematic problems that require Congress to act.

Senator HIRONO. But aren't you supporting the Innovation Act?

Mr. MOLINO. We do support the Innovation Act.

Senator HIRONO. Which is very broad. It is much broader than what we are proposing in the STRONG Act. So I am a little bit confused about your position.

Mr. MOLINO. The Innovation Act addresses abuses that occur in the litigation system that have been going on for over a decade, to which there has been a ton of study showing that these abuses happen. There have been years and years of academic, congressional research on this.

Whereas, the Innovation Act—and the alleged abuses that are beginning to pop up, I think it is a little too early to tell whether those are actually going to continue and deserve congressional action.

Senator HIRONO. I am sorry. Did you say you are not supporting the Innovation Act or you are?

Mr. MOLINO. No. We do support the Innovation Act, yes.

Senator HIRONO. Okay. I guess there are differences of opinion on that.

Ms. King.

Ms. KING. Yeah, I respectfully disagree.

I think that these are not alleged abuses. These are clearly abuses. And I think that the way that you have addressed them is really right on point.

Three things: Setting the same standard for what is happening in IPRs and what happens in district court, allowing greater flexibility in amending claims, and addressing this issue of standing. I think those are three critical issues.

We have seen the abuses, and I really appreciate what you are doing with this bill to address them.

Senator HIRONO. Mr. Chairman, if I can ask the last panel person to respond briefly.

Chairman VITTER. Sure.

Mr. BANDES. Yeah. So, far from an expert, but from what we have seen, we are also in favor of the STRONG Act.

I think having the FTC involved is great, but I would go back to a similar theme around the PTO. Make sure you give them enough resources because if you give them the enforcement but not the capability to actually help with this problem my question would be how quickly will they be able to resolve issues. So, if you are going to ask them to do it, make sure you give them the resources they need to go do it.

Senator HIRONO. All right. Thank you, Mr. Chairman.

Chairman VITTER. Great. Thank you.

Senator Coons is next.

Senator COONS. Thank you, Mr. Chairman.

And thank you, Senator Hirono, for your great partnership in this work, and Ranking Member Cardin.

I want to say that it is, for me, exciting to hear this being considered in the Small Business Committee as well as on the Judiciary Committee on which I serve.

As someone who was in-house counsel for eight years to a highly inventive company that had thousands of engineers but that began literally in a basement by a sole inventor, I had the experience and the excitement of working with a company that was constantly generating ideas and filing patents and relied on that patent protection to grow from a new small startup to, ultimately, a more sustained and successful company.

So I am pleased we have had a chance today, Mr. Chairman, to hear from this impressive group of witnesses, all of whom have testified to the enormous importance of a strong and predictable patent system, a system of patent rights that is at the basis of our nation's innovative ecosystem.

This property right, rooted in our Constitution, is one I think we should be very careful about how we revise, or amend, and how we change the system of litigation.

Now there has been a lot of talk—there has been not just talk but legislation in the last Congress—about how we need to diminish the rights of patent owners for the benefit of small businesses, but today's hearing has done no less than turn that argument, in many ways, on its head.

And what we have heard today is that strong predictable patent rights, the ability of a patent owner to enforce that patent against infringement, is central to the ability of small businesses in technology, biomedical, and material sciences to survive by attracting and sustaining investment.

So, to address these abuses, Senator Hirono and I, along with Senator Durbin, have introduced the STRONG Patents Act, as has been discussed, which streamlines and strengthens pleading, empowers the FTC to go after the real patent trolls, those who really have no basis in law or fact for their suits, tackle some of the recent and notable abuses of the post-grant review system at PTO.

When a hedge fund can erase \$100 million or more of investor capital simply by filing a PGR, solely for the purpose of shorting the stock, I think it is time for us to look seriously at acting.

And it ends fee diversion to fully fund the Patent and Trademark Office and improve patent quality, something I think everyone can support.

So I look forward to listening and working with my colleagues to enact meaningful, targeted reforms that respect the diversity of the innovative ecosystem.

And, if I might, Mr. Chair, I would like to submit for the record letters that support either explicitly the STRONG Patents Act or its approach from the National Venture Capital Association, the National Small Business Association, the Biotech Industry Association, the Association of American Universities, the Association of Public and Land-Grant Universities, the Medical Device Manufacturers, the Pharmaceutical Research Manufacturers, the Innovation Alliance, and the IEE-USA.

Chairman VITTER. Without objection, so ordered.

[The information follows:]



Statement for the Record

Submitted by the American Hotel & Lodging Association

to the

United States Senate Committee on Small Business & Entrepreneurship

for a hearing entitled:

“Patent Reform: Protecting Innovation and Entrepreneurship”

March 19, 2015



The American Hotel & Lodging Association, representing all segments of the U.S. hotel industry, which encompasses thousands of small businesses, commends the Small Business & Entrepreneurship Committee for examining the issue of patent trolls. Further, we applaud the work currently under way by Senators on both sides of the aisle to craft strong and effective legislation which will limit the ability of patent trolls to extort money from our hotels, and we hope that this hearing will further lay the groundwork for such legislation.

We are a founding member of the United for Patent Reform coalition which includes companies and trade associations from across the economic spectrum, including home builders, realtors, convenience stores, restaurants, and retail shops, as well as innovative technology companies like Google, Facebook, Samsung, and Cisco. Members of our coalition include some of the largest patent holders in the country, clearly demonstrating that the reforms we seek will not decrease the value of patents or limit their enforceability.

However, when a patent troll, with no interest in pursuing any productive use of a patent it holds, can continuously profit from sending exceedingly vague or deceptive demand letters to small business franchisees who own one or two hotels, and have no in-house legal staff, something is wrong with our patent litigation system. In order to adequately address the problem, we need a multi-pronged approach to patent litigation reform which:

- Requires that patent demand letters accurately include certain basic information;
- Ensures that claims between a patent owner and a manufacturer proceed before claims between the patent owner and the manufacturer's end users, like hotels;
- Creates a stronger presumptive fee-shifting rubric and a mechanism to ensure court ordered fee-shifting is enforceable;
- Requires trolls to pay for the discovery they request beyond core documents;
- Makes patent litigation more efficient so that weak cases can be dismissed before expensive discovery;
- Requires plaintiffs to explain in detail the basis for the alleged infringement when they file complaints; and
- Maintains and improves administrative alternatives to litigation.

We look forward to working with all Senators to pass forceful legislation that includes the above-mentioned provisions. Only then will hotel owners, operators and investors be able to stop wasting time and money on defending their businesses from patent trolls, and turn their full focus toward enhancing the guest experience, building new hotels and creating jobs in their communities.

Statement of the Application Developers Alliance on Patent Reform

U.S. Senate Committee on Small Business & Entrepreneurship on Patent Reform: Protecting Innovation and Entrepreneurship

March 19, 2015

The Application Developers Alliance (the “Alliance”) urges the Small Business Committee to champion the cause of small businesses across the United States and support robust patent abuse reform legislation. This Committee should play an important role in helping the Senate swiftly enact comprehensive patent reform legislation that will provide real alternatives to litigation, address the imbalance in litigation burdens, and ensure transparency and specificity in demand letters and judicial complaints. Specifically, strong patent reform legislation should:

- Increase transparency by requiring patent trolls to specify in demand letters which patent and what claims are infringed, specify how the product or technology infringes, and identify all persons or entities that own significant interests in the patent(s), including those that substantially influence licensing and litigation decisions.
- Limit the scope of expensive litigation discovery.
- Expand U.S. Patent and Trademark Office (“PTO”) post-grant review process.
- Create a customer stay, protecting individuals and small businesses from being sued for infringements.

The Application Developers Alliance was founded in January 2012 to support app developers as entrepreneurs, innovators and creators. The Alliance membership includes more than 200 companies and 36,000 individual developers nationwide. The overwhelming majority of our corporate membership is made up of small startups that are innovating, growing our economy, and playing by the patent rules. Unfortunately, many of these same companies are also the victims of bad actors who are exploiting loopholes in our broken and outdated patent system to prey on our nation’s jobs engines. Small businesses around the country are facing a constant – and growing – threat from non-practicing entities (“NPEs”), or patent trolls, who are not innovators, job creators, or engines of growth, but rather shell companies that seek to extort legitimate businesses to turn a profit. Since our inception, the Alliance has been a vocal proponent of comprehensive patent reform to combat patent trolls. We believe that Congress should level the playing field to force patent trolls to consider carefully whether it is worth their time to threaten small businesses or engage in frivolous litigation.

As the Senate moves forward in addressing patent reform, any legislation must provide for meaningful demand letter reform. Nearly one-third of our nation’s startups report receiving a demand letter.

Frivolous demands cost American companies as much as \$29 billion annually.¹ This is money that is not spent on innovation or growing our economy. Legislation should meaningfully deter demand letter abuse and reduce the growing financial burden on small businesses. In particular, the Alliance supports requiring demand letters to identify (1) the allegedly infringed patent, (2) the allegedly infringing functionality in the defendant's products or services, and (3) all parties that have financial interests in the patent. Demand letter provisions should also clarify existing Federal Trade Commission authority to act against senders of demand letters that do not meet the specificity requirements or that are otherwise intentionally misleading. Finally, legislation should require that all demand letters be posted on a publicly accessible and searchable website, so that victims of demand letter abuse can identify one another and work together to efficiently fight back.

Strong patent reform legislation should also modify discovery rules, by limiting free discovery to core technology documents that prove whether a patent is valid and infringed. Reducing unlimited free discovery will rob trolls of an important weapon – the crushing cost of one-side discovery – while still providing all materials necessary to prove the necessary predicates of whether a patent is valid and infringed.

The explosion in abusive patent litigation based on poor-quality software and business method patents justifies faster, less expensive post-grant review processes at the U.S. PTO. Reform opponents claim that patent litigation decreased in 2014 due to recent Supreme Court decisions. However, these claims are misleading, as patent litigation by non-practicing entities (NPEs) actually increased in January² and February³ 2015 when compared to 2014. Litigation by NPEs also continues to grow as a percentage of overall patent litigation. According to a study by Unified Patents, 61 percent of all 2014 patent cases were initiated by NPEs. Moreover, small and medium-size companies were targeted in 24 percent of all 2014 NPE cases.⁴ PTO steps to improve patent quality, including initiatives to crowdsource prior art, are helpful forward-looking actions. But enhancing post-grant review options is the only way to assist startups victimized by previously never-should-have-been-issued patents that are now in the hands of trolls.

¹ Robin Feldman, Patent Demands & Startup Companies: The View from the Venture Capital Community,

² UnifiedPatents. (2015). January 2015 Patent Dispute Report. Los Altos: UnifiedPatents. Available at <http://unifiedpatents.com/january-2015-patent-dispute-report-static/>.

³ UnifiedPatents. (2015). February 2015 Patent Dispute Report. Los Altos: UnifiedPatents. Available at <http://unifiedpatents.com/february-2015-patent-dispute-report/>.

⁴ UnifiedPatents. (2014). 2014 Patent Litigation Report. Los Altos: UnifiedPatents. Available at <http://unifiedpatents.com/unified-patents-2014-litigation-report/>.

Finally, strong patent legislation must protect end user customers that have no input into the planning, production or development of a product. End user liability means thousands of small app developers are not winning business in their communities because potential clients are forced by liability fears to contract instead with large deep-pocketed agencies that can indemnify against multi-million dollar patent infringement risk. End users protected by reform legislation should include app developers (e.g., of API code provided by platforms to ensure smooth integration of the app and the platform) and developers' customers (e.g., businesses that contract with app developers). The Small Business Committee should ensure that America's small businesses can become more efficient and profitable by having the freedom to purchase or license technologies without fear that they will be exposed to expensive infringement liability or abusive patent trolls.

As the Senate moves forward in crafting strong patent reform legislation, the Small Business Committee should tackle dishonest practices of patent trolls that exploit the cost of litigation to extort easy settlements from small businesses and startups across America. On behalf of America's innovative app developers and many thousands of end user customers, the Alliance urges Congress to swiftly enact meaningful patent reform that will protect startups, promote legitimate inventions and true inventors, and restore trust in our patent system.

We appreciate the opportunity to share our thoughts and look forward to working with the Committee on this very important issue.

Respectfully submitted,

Jon Potter
President, Application Developers Alliance

ASSOCIATION OF AMERICAN UNIVERSITIES

**FOR RELEASE UPON BILL INTRODUCTION**

March 2, 2015

barry.toiv@aau.edu**CONTACT: Barry Toiv**

202-408-7500,

AAU EXPRESSES SUPPORT FOR STRONG PATENTS ACT OF 2015

Following is a statement by Hunter Rawlings, President of the Association of American Universities, on the introduction of the STRONG Patents Act of 2015 by Sen. Chris Coons (D-DE).

We thank Senator Coons for introducing the STRONG Patents Act of 2015. AAU supports this legislation because it targets the abusive practices of patent trolls through judicious, carefully calibrated measures that would not make it more difficult and costly for all patent holders to enforce their patents and thus diminish the overall strength of the U.S. patent system. Universities' ability to move their discoveries to the private sector for the benefit of the public through technology transfer depends on a strong patent system. It is our hope that Congress will take up this legislation in the coming weeks.

#

The Association of American Universities (AAU) is an association of 60 U.S. and two Canadian public and private research universities. It focuses on issues such as funding for research, research policy issues, and graduate and undergraduate education. AAU member universities are on the leading edge of innovation, scholarship, and solutions that contribute to the nation's economy, security, and wellbeing. AAU's 60 U.S. universities award nearly one-half of all U.S. doctoral degrees and 55 percent of those in STEM fields.

Follow AAU on Twitter at @AAUniversities.

For Immediate Release:
March 3, 2015

Contact: Jeff Lieberson
202-478-6073 (office)
202-236-2372 (cell)

**Association of Public and Land-grant Universities' Statement
on Introduction of STRONG Patents Act of 2015**

Washington, D.C. – Association of Public and Land-grant Universities (APLU) President Peter McPherson today released the following statement regarding the introduction of the STRONG Patents Act of 2015.

“The STRONG Patents Act of 2015 is a straightforward bill that would effectively crack down on the abusive practices of so-called patent trolls without weakening the U.S. patent system. Universities rely on a strong patent system to ensure that research discoveries can be transitioned to private sector entities, which can scale-up and develop marketable products that improve quality of life and fuel the economy. This measure would help ensure the strength of this technology transfer process, which significantly contributes to our nation’s leadership in science and technology.”

###

Representing 238 public research universities, land-grant institutions, state university systems, and related organizations, APLU is the nation's oldest higher education association with member institutions in all 50 states, the District of Columbia, four U.S. territories, Canada, and Mexico. Annually, APLU member campuses enroll 4.8 million undergraduates and 1.3 million graduate students, award 1.2 million degrees, employ 1.4 million faculty and staff, and conduct \$41.4 billion in university-based research.



January 21, 2015

The Honorable Ben Cardin
 United States Senate
 509 Hart Senate Office Building
 Washington, DC 20510

Dear Senator Cardin:

As the 114th Congress begins its work, we want to take this opportunity to pledge our interest in working with you on a number of issues that are important to our institutions.

As presidents and chancellors of the Big Ten universities, one of the issues of importance is the recent effort to rewrite patent litigation law. We urge Congress to take a cautious approach in this endeavor. While we support the goal of targeting abuse of the patent system and especially abusive patent litigation, we respectfully ask that you preserve the ability of small businesses and universities to license and enforce their patent rights.

One of the major ways research universities like ours help serve the nation is by transferring the patentable inventions developed in university-owned research labs to the private sector for development into new technologies to benefit all Americans, whose tax dollars frequently paid for much of that research. This process has brought about hundreds of billions of dollars in economic activity and over three million jobs in the past thirty years nationwide. Having a strong defensible patent is crucial to ensuring that those who want to commercialize the discoveries emerging from university research can access the investment dollars they need to move their discoveries into the marketplace.

Last session, the House of Representatives passed HR 3309, the Innovation Act. That legislation – had it become law – would have made using the courts to enforce any patent much more difficult. The provisions, especially those involving “loser pays” (automatically awarding attorney fees to a prevailing party) and “joinder,” (requiring joinder of any party with a financial interest in the litigation, such as a university inventor) as written, would have the effect of making patent licensing negotiations more complex and likely discourage at least some of our members from licensing their inventions at all. In addition, these provisions would make litigation so potentially risky that few legitimate patent holders without deep pockets would dare risk doing so.

While legislation in the Senate Judiciary Committee ultimately was set aside, we understand that legislation similar to HR 3309 may be forthcoming early in the new Congress. Unless patent holders are able to defend and assert their patents, the value of the patent system is eroded and fewer businesses will be willing to license and develop these patents into the new products, new drugs and medical devices that will improve the quality of life and increase economic growth for our nation.

We agree that those who abuse the patent litigation system should not be rewarded, and we support narrow legislation that targets those individuals. What Congress must not do is turn that effort into making legitimate patent holders – such as universities and our commercial partners – unable to license and defend their patents. We urge you to support us on this issue and oppose legislation that hampers innovation.

Thank you for your attention to our views. We will continue to highlight our concerns as this process moves forward.

Sincerely,

Phyllis M. Wise
Chancellor
University of Illinois at Urbana-Champaign

Michael A. McRobbie
President
Indiana University

Sally Mason
President
University of Iowa

Walla D. Loh
President
University of Maryland

Lou Anna K. Simon
President
Michigan State University

Mark Schlissel
President
University of Michigan

Eric W. Kaler
President
University of Minnesota

Harvey Perlman
Chancellor
University of Nebraska-Lincoln

Morton O. Schapiro
President
Northwestern University

Michael V. Drake
President
The Ohio State University

Eric J. Barron
President
Pennsylvania State University

Mitchell E. Daniels Jr.
President
Purdue University

Robert L. Barchi
President
Rutgers University

Rebecca M. Blank
Chancellor
University of Wisconsin—Madison



**Biotechnology
Industry
Organization**

News Release

1201 Maryland Avenue, SW • Ste. 900 • Washington, D.C. • 20024 • 202-962-9200
 Web: www.bio.org Blog: www.biotech-now.org Twitter: [@IAmBiotech](https://twitter.com/IAmBiotech)

For Immediate Release

Contact: [George Goodno](#)
 202-962-6660

BIO Statement of Support for the Introduction of the STRONG Patents Act of 2015

Washington, D.C. (March 3, 2015) – The following statement on the introduction of the STRONG Patents Act of 2015 by Senator Chris Coons (D-DE) may be attributed to BIO President and CEO Jim Greenwood:

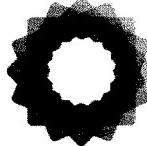
“BIO supports balanced reforms to reduce abusive patent practices, while maintaining the strong incentives necessary to sustain our nation’s global leadership in biotechnology innovation and the creation of high-wage, high-value jobs throughout our country. The STRONG Patents Act of 2015 achieves this critical balance.

“I commend Senators Coons, Durbin and Hirono for their leadership in introducing legislation that cracks down on false or deceptive patent demand letters, re-balances post-grant proceedings to ensure fairness for both patent owners and challengers, eliminates diversion of PTO user fees and protects the rights of American entrepreneurial businesses.

“Strong patents are the lifeblood of the biotechnology industry. They are critical in ensuring a steady stream of capital to biotechnology companies developing innovative medicines, alternative energy sources and insect- and drought-resistant crops. And they are essential to the technology transfer process that leads from inventions in the lab to products on the shelves.

“The majority of biotechnology companies are small companies that have no products on the market, and thus their research and development activities are funded through massive amounts of private sector investment over many years, sometimes even decades. Without strong, predictable and enforceable protections for patented inventions, investors will shy away from investing in biotech innovation, degrading the ability to provide solutions to the most pressing medical, agricultural, industrial and environmental challenges facing our nation and the world.

“BIO supports the STRONG Patents Act of 2015 and will continue to advocate for passage of legislation to curb abusive patent practices, while not undermining the ability of patent owners to defend their inventions and businesses against infringement.”



Engine

Statement
of
Julie Samuels
Executive Director, Engine
Before the
Senate Small Business and Entrepreneurship Committee

Chairman Vitter, Ranking Member Cardin, and members of the Senate Small Business and Entrepreneurship Committee:

Engine is thankful for the Committee holding his hearing on patent reform. Engine is a non-profit advocacy and research organization with a network of small companies, pioneers, innovators, investors, and technologists. The small companies we work with are fundamentally altering and challenging entrenched business models, ideas, and institutions across all industries. These are the businesses that drive our economic prosperity, create jobs, and improve our lives. They are also the companies that are harmed the most by patent trolls. It is important that this issue be discussed in this venue, as the Small Business Committee plays a vital role in highlighting small business harms. There is a common misconception that patent trolls only affect large companies. However, it is quite the opposite: 55% of patent troll targets are small businesses.

Patent trolls are bad actors that threaten these businesses with ambiguous, poor quality patent claims and take advantage of asymmetries in the patent litigation system to force settlement. Small businesses do not have the resources to properly fight the often meritless cases brought by patent trolls. When these businesses receive patent demand letters, they must spend at least tens of thousands of dollars to have it evaluated by an attorney and decide whether it requires a response. If the demand escalates and the business is sued by the troll, they must spend more time and significant money on an attorney who will lay out the options: the cost to settle versus the cost to pursue to judgement. Unfortunately, given the exorbitant costs of discovery early in a case and the high uncertainty of patent litigation (including whether fees will be received if the defendant prevails), the suggestion is often that the business should settle—or else endure years of personal, financial, and operational burden in addition to the general challenges of surviving as a small business. And worse,

settlement leaves the bad patent still valid and the troll funded to continue their pursuit of American business casualties.

It is important to observe here that small business defendants do not currently have access to justice in the courts. The odds are stacked against them—patent litigation in its current form is not a fair assessment of infringement but rather a tool for intimidation. The resulting hostile environment is furthermore an impediment to attracting critical investment to get a business going, as noted by the 140 venture capitalists who signed a letter in support of comprehensive patent reform.

For those small entities now trying to take commerce and business into the 21st century—online—they become targets for the vast amount of vague patents that claim to cover many basic features of doing business on the Internet and e-commerce more broadly. These weak and ambiguous patents create uncertainty over what is patentable and what has already been invented. Not only does this ambiguity block many businesses from growing in new ways out of fear that they may be infringing patents, but it also leads to more costly and uncertain patent litigation.

The Innovation Act, introduced in the House Judiciary Committee, is a carefully tailored bill that will not only give small and disadvantaged defendants the tools they need to fight meritless claims, but will overall require plaintiffs to bring more legitimate lawsuits. And better litigation reduces the burden for everyone: plaintiffs, defendants, and the courts. Effective legislation should improve the transparency of demand letters and initial complaints so small businesses can understand why they are being sued and properly evaluate the option to litigate; protect end users from infringement claims by allowing technology manufacturers to step; limit a troll's ability to drive up the cost of discovery early in the case and extort settlements; require judges to consider end-of-case fee-shifting and help limit cases brought to those that are reasonable.

We hope that since the need to address the issue of patent trolls has gained traction in the Small Business Committee and other committees, this will encourage the Senate Judiciary Committee to move quickly with the drafting and passing of their legislation. There is a real urgency for this legislation among small businesses who are currently unable to take on bad actors in the patent system.

We are attaching the letter from venture capitalists aforementioned and our latest white paper, with an accompanying executive summary, that further clarifies the breadth of the patent troll problem and current state of affairs of the patent ecosystem.



Engine

Startups Need a Stronger, Fairer Patent System

Patent litigation abuse is a real problem that disproportionately targets and harms startups and small businesses. Patent trolls are armed with poor quality patents and a litigation system that is stacked in their favor. This enables them to extract nuisance settlements with meritless claims often without even setting foot in court. Startups and small companies bear the brunt of this dangerous trend. We need a multi-pronged approach to promote innovation and encourage American economic growth.

Congress

Trolls thrive because of an uneven litigation playing field that incentivizes and rewards those bad actors that bring frivolous claims. Only legislation can change that. Last term, the House overwhelmingly passed the Innovation Act and the President has consistently supported robust reform; Congress must act urgently this year to pass robust and effective legislation that:

- Increases transparency of patent ownership and infringement allegations so startups can understand which patent and what claims are infringed; specifically how the offending product or technology infringes; and who is the real owner of the patent(s) at issue.
- Reasonably limits unnecessary, expensive discovery, which is often leveraged early in a lawsuit to force defendants to settle for a price cheaper than defending an entire case.
- Enables judges to require bad actors to pay the prevailing party's attorney fees and other costs incurred.
- Protects end users of technology from infringement claims by allowing technology manufacturers to step in and defend the allegations.

Current proposals would not hinder an inventor from monetizing, asserting or enforcing valid patents, rather give startups a fair shot at defending themselves against frivolous suits that extort inventors.

The Patent Office

The issuance of poor quality patents is at the very heart of the patent troll problem. The Patent Office must enforce the standards for patentability laid out by the Supreme Court *before* granting a patent. The PTO must also better enforce the statute that limits claiming an invention's function without explaining how it is achieved and demand more clarity in patent applications.

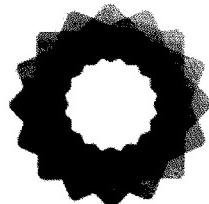
The Courts

The Supreme Court issued several key decisions last year that clarify and strengthen the requirements for patent eligibility. However, even with these rulings, startups still face increasing patent troll threats. Patents last for 20 years, and the Patent Office has been in the business of granting approximately 40,000 software patents annually, so at least hundreds of thousands of them currently exist. The vast majority of these patents won't be reevaluated under recent Supreme Court cases unless someone actually challenges that patent, either in court or at the Patent Office. In the meantime, many remain a threat. While we must ensure that the lower courts faithfully implement the recent Supreme Court rulings, that alone will not be enough.

For more information, see "[Patent Reform in 2015: Building a Stronger, Fairer System for All](#)" (2015).

PATENT REFORM IN 2015

BUILDING A STRONGER,
FAIRER SYSTEM FOR ALL



Engine



Patent litigation abuse is a real problem, and one that disproportionately targets startups and small businesses. This so-called troll problem is an acute and growing menace that adversely impacts the operations and viability of companies who can afford these threats the least. Since startups and small businesses are key drivers of innovation and job growth, troll threats against them are particularly stifling of American economic growth and prosperity. Trolls cost the U.S. economy at least \$29 billion per year.¹

For instance, one well-known patent troll, MPHJ, sent scores of demand letters to startups and small businesses that employed office scanners². MPHJ alleged that basic tasks like scanning and emailing a document violated their patents. Using litigation-proof shell companies, MPHJ demanded licensing fees from targets across the country, seeking payments on the order of \$1,000 for each employee. MPHJ is not alone. ArrivalStar continues to wreak havoc, targeting all entities that use tracking technology, from retailers like Home Depot to municipal transit systems like Port Authority of New York and New Jersey.³ And DietGoal LLC filed lawsuits non-stop against anyone offering an online meal planning widget or recipe database.⁴

Trolls exploit poor quality patents and a litigation system that is stacked in their favor to extract pre-litigation nuisance settlements from vulnerable startups, typically with baseless claims. They hide behind shell companies in order to exploit uncertainty about patent ownership and ambiguity about what their patents purport to cover. Without any due diligence, they routinely send demand letters alleging infringement to multiple parties, on a wholesale and indiscriminate basis, demanding settlement payments from their innocent prey. The troll abuse problem is exacerbated by the fact that trolls amass and deploy poor quality patents—vague, abstract, or overly broad patents that fail to meet the law's requirements—that were erroneously issued in the first place.

This chokehold on innovation requires a multi-pronged set of remedies; the courts, the Patent and Trademark Office (PTO), and Congress each must play an essential role. The Supreme Court has taken significant steps on the judicial front, issuing several key decisions that clarify and strengthen patent quality, particularly the requirements for patent eligibility. If rigorously

¹ Bessen, James and Michael Meurer. "The Direct Costs from NPE Disputes." 28 June 2012. *Cornell Law Review*, Vol. 99, 2014, forthcoming. Boston Univ. School of Law, Law, and Economics Research Paper No. 12-34: p. 2. https://www.bu.edu/law/faculty/scholarship/workingpapers/documents/BessenJ_MeurerM062512rev062812.pdf.

² Mullin, Joe. "Meet the nice-guy lawyers who want \$1,000 per worker for using scanners." Ars Technica, 7 April 2013. <http://arstechnica.com/tech-policy/2013/04/meet-the-nice-guy-lawyers-who-want-1000-per-worker-for-using-scanners/>.

³ Mullin, Joe. "A new target for tech patent trolls: cash-strapped American cities." Ars Technica, 15 March 2012. <http://arstechnica.com/tech-policy/2012/03/a-new-low-for-patent-trolls-targeting-cash-strapped-cities/>. See also, Letter from Rep. Daniel Lipinski (D-IL) to FTC Chairwoman Edith Ramirez, 25 June 2013. https://www.eff.org/files/lipinski_ltr_ftc.pdf.

⁴ Masnick, Mike. "Patent Holder Sues Basically Anyone Who Offers Recipes Or 'Meal Planning' Online." TechDirt, 15 June 2012. <https://www.techdirt.com/articles/20120615/03122319332/patent-holder-sues-basically-anyone-who-offers-recipes-meal-planning-online.shtml>.



implemented by the PTO and by other courts, these decisions should have the effect of improving the quality of prospective patents. However, the decisions will have little impact on the many already-issued patents in trolls' arsenals.

It's important to note that patent quality is but one side of the troll equation. Trolls thrive because of a grossly uneven patent litigation playing field that incentivizes and rewards frivolous claims. Only legislation can change that. We need a robust reform bill that contains all of the core elements in the House's 2013 Innovation Act, reintroduced in 2015 as HR9, giving startups, small businesses, and even individuals an equal chance to have their day in court when faced with a troll threat. Unless these reforms are enacted, patent trolls will force startups to drain critical energy and resources away from the business of innovating and creating jobs.

I. THE IMPACT OF TROLL ABUSE ON STARTUPS AND INNOVATION

Startups and small businesses develop breakthrough technologies that fuel innovation and drive economic growth and job creation. In fact, research shows that startups are responsible for all net new job growth in the United States.⁵ So trolls' crushing impact on startups reverberates throughout the ecosystem, impeding innovation and hurting the U.S. economy at large.

Research also shows that startups bear the brunt of troll abuse⁶ and the impact of troll threats on startups is disproportionately severe: 82 percent of troll activity targets small and medium-sized businesses, and 55 percent of troll suits are filed against startups with revenues of less than \$10 million.⁷ Generally lacking in resources to decipher vague and often bogus demand letters, startups are vulnerable to extortion. They cannot afford to jeopardize their business to fight back.

Trolls' impact on startup operations is acute: a very high percentage of startups who received a demand letter reported "significant operational impact" in the form of deferred hiring, change in strategy, cost-cutting, reductions in personnel, decreased valuation or total shut-down.⁸ This adverse impact has ripple effects throughout the innovation ecosystem.

⁵ Hathaway, Ian. "Tech Starts: High-Technology Business Formation and Job Creation in the United States." Kauffman Foundation Research Series: Firm Formation and Economic Growth, August 2013. http://www.kauffman.org/~media/kauffman.org/research_reports_and_covers/2013/08/bdtechstartsreport.pdf.

⁶ Savitz, Eric. "Are Patent Trolls Now Zeroed In On Start-Ups?" Forbes, 17 January 2013. <http://www.forbes.com/sites/ciocentral/2013/01/17/are-patent-trolls-now-zeroed-in-on-start-ups/>.

⁷ Chien, Colleen V. "Patent Assertion Entities." Presentation to the Dec 10, 2012 DOJ/FTC Hearing on PAEs, 10 December 2012. <http://ssrn.com/abstract=2187314>.

⁸ Chien, Colleen. "Startups and Patent Trolls." 28 September 2012. *Stanford Technology Law Review*, forthcoming. Santa Clara University Legal Studies Research Paper No. 09-12: p.2. <http://ssrn.com/abstract=2146251>.



The economic incentives in the troll model are clear: a bare bones and vague demand letter provides immediate low-risk, low-cost leverage over a startup, even when the claim is baseless. It can easily cost a startup \$50,000 just to simply hire a patent lawyer to evaluate demand letter claims. Litigation costs range between \$1 million and \$6 million, and can mean life or death for a fledgling business.⁹ So startups often capitulate, and lay off an employee or hire one less programmer in order to pay off the troll. For example, Ditto, a virtual eyewear company, had to lay off four of its 15 employees in response to a troll demand. Although the infringement claim was dismissed, the suit resulted in a reduction in Ditto's valuation of \$4 million.¹⁰

The mere threat of troll suits has chilling effects on the investment community. In a survey of 200 venture capitalists, 100 percent indicated that the presence of a patent demand could be a major deterrent in deciding whether to invest.¹¹ It is estimated that VC investment in startups would have been \$8 billion higher but for troll threats in the last five years alone.¹²

Yet, trolls paint themselves as the champions of the small guys, as legitimate entities who help independent inventors monetize their patents by enforcing them on the inventor's behalf. In fact, trolls increasingly target small entities, and statistics show that very little of a patent troll's revenue is transferred to actual inventors.¹³ Patent trolling activities are associated with half a trillion dollars of lost wealth to their victims—largely startups and small businesses—from 1990 to 2010 alone.¹⁴

II. BAD PATENTS ARE KEY DRIVERS OF TROLL SUITS

Trolls frequently assert poor quality patents—improperly issued patents that would likely be invalidated if challenged. Poor quality patents are especially common in the software space and are often patents on so-called business methods. These patents are often so vague and broad or lacking in clear boundaries that it is impossible to determine what the patent claims to cover; such patents are trolls' favorite weapons. In fact, Internet patents are between 7.5 and 9.5 times more likely to be litigated than non-Internet patents, and they are much more likely

⁹ Lee, Ben. "Twitter: It's time for patent trolls to bear the cost of frivolous lawsuits." GigaOm, 8 October 2012. <https://gigaom.com/2012/10/08/twitter-time-for-trolls-to-pay-full-price-for-patent-mischief/>.

¹⁰ Mullin, Joe. "New Study Suggests Patent Trolls Really Are Killing Startups." Ars Technica, 11 June 2011. <http://arstechnica.com/tech-policy/2014/06/new-study-suggests-patent-trolls-really-are-killing-startups/>.

¹¹ Feldman, Robin. "Patent Demands & Startup Companies: The View from the Venture Capital Community." 28 October 2013. UC Hastings Research Paper No. 75: p. 11. <http://ssrn.com/abstract=2346338>.

¹² Tucker, Catherine. "Patent Trolls and Technology Diffusion." 23 March 2014. Massachusetts Institute of Technology, Management Science, Working Paper, 201. <http://ssrn.com/abstract=2136955>.

¹³ Bessen, James, and Michael Meurer. "Patent Trolls in Public." Patently-O, 19 March 2013. <http://patentlyo.com/2013/03/patent-trolls-in-public.html..>

¹⁴ Bessen, James, Jennifer Ford, and Michael Meurer. "The Private and Social Costs of the Patent Trolls." 19 September 2011. Boston Univ. School of Law, Law and Economics Research Paper No. 11-45, p. 17. <http://ssrn.com/abstract=1930272>.



to be invalidated.¹⁵ When actually litigated, Internet patents were upheld in only three percent of cases.¹⁶ In other words, these patents are at least partially invalidated in court well over 90 percent of the time. Moreover, an increasing number of these patents are being invalidated through the PTO's post grant review proceedings. This high invalidation rate also underscores the poor quality of these patents. However, the PTO procedures, though operating as intended, do not scale enough to have much effect on the troll business model.

III. THE STATUS OF REFORM EFFORTS

Recognizing that patent troll abuse harms innovation and serves as a tax on startups and businesses, the Obama Administration called for comprehensive patent reform legislation to curb abuse, and made other recommendations for the PTO to improve patent quality. In December 2013, the House of Representatives passed a strong patent reform bill—the Innovation Act—by a 325-91 margin. The Senate considered its own bill last year and was poised to mark up compromise legislation in May, until Majority Leader Reid signaled his intent to sideline the bill under pressure from special interests opposed to reform.

Since then, President Obama has reiterated his call for robust patent reform legislation; a bipartisan coalition in the House led by House Judiciary Committee Chairman Goodlatte reintroduced the Innovation Act (HR9); and newly elected Republican Senate leaders have joined senators on both sides of the aisle vowing to pass patent reform in this Congress. While there have been positive developments in the courts and at the PTO, the impact of these decisions is limited to the tiny fraction of bad patents that are actually challenged. They have little impact on bad behavior. Furthermore, most trolling occurs pre-litigation and remains veiled in secrecy, rendering the full scope of the problem not impossible to quantify.

IV. WHY WE NEED PATENT REFORM LEGISLATION

Only legislation can deter trolls from exploiting a stacked litigation deck to extort settlements. Congress must therefore pass a strong patent reform bill that removes existing incentives to assert bad patents and creates a level litigation playing field for all inventors. Such legislation must include the following:

- Because trolls often hide behind shell companies, the bill must require transparency of a patent's ownership so startups know exactly who is threatening them, can access

¹⁵Allison, John, et al. "Patent Litigation and the Internet." 20 January 2012. *Stanford Technology Law Review* 3, p. 4. <http://stlr.stanford.edu/pdf/allison-patent-litigation.pdf>.

¹⁶ *Ibid.*, p. 27.



information about whom else a troll may be suing with the same patent, and can better evaluate how to respond.

- Because current patent litigation rules allow for the initiation of a lawsuit on the basis of a bare-bones form filing, legislation is needed to raise pleading standards to require the identification of claims asserted and the nature of alleged infringement before a troll is able to drag a startup into court.
- Because the high cost of discovery is a cudgel of leverage, legislation should place reasonable limits on discovery, allowing discovery of core documents but staging additional discovery until after the court determines what a disputed patent actually covers. Courts should also be able to shift the costs of extra discovery as appropriate, so that essentially the entire burden does not fall on the defendant.
- Because current law allows for the awarding of attorneys' fees only in "exceptional" cases, a startup has almost no chance of recovering fees and costs even if it fights and wins. The bill must give judges real discretion to award attorney fees and costs to a prevailing party when the behavior and conduct of a losing party was not objectively reasonable or substantially justified. A fee-shifting provision like this should in no way discourage or hamper the ability of a patent holder to assert any valid claims, but would provide some downside risk to trolls who are otherwise free to engage in frivolous litigation with impunity. The fee-shifting provision must be accompanied by a provision that enables the party to whom fees are awarded to recover by holding the real party in interest liable; otherwise, the fee-shifting provision would be toothless against a shell plaintiff with no assets.¹⁷
- Because trolls are increasingly suing consumers and other users for infringement to gain further leverage, the bill must shield innocent users with a "customer stay" provision that halts such actions and allows manufacturers to defend the infringement allegations.
- Because trolls notoriously deploy abusive and opaque demand letters that lack any information about the alleged infringement, the bill must include provisions that require specificity and clarity in demand letters. This will allow startup targets to understand why they are being threatened, how they are alleged to be infringing, and whether the claim has any merit.

¹⁷ Lumen View's suit against FindTheBest is a case in point. The judge found the patent invalid and ordered the plaintiff to pay FindTheBest's legal fees and costs, deeming the case "exceptional" because of LumenView's egregious behavior. But FindTheBest has been unable to collect the fees awarded by the court because the plaintiff is a shell entity with no assets. Attempting to pierce the corporate veil to hold the ultimate owners liable could end up costing more than the fee award. FindTheBest has the resources to fight the case through litigation whereas most startup startups don't, and even they have been unable to collect the attorney fees awarded by the court. (Mullin, Joe. "Patent troll ordered to pay \$300K to FindTheBest in 'matchmaking' case." Ars Technica, 29 October 2014. <http://arstechnica.com/tech-policy/2014/10/patent-troll-ordered-to-pay-300k-to-findthebest-in-matchmaking-case/>.)



- Because the ability of threatened startups to petition the PTO to review and potentially rescind patents is limited in scope, the bill should include provisions that would expand the PTO's to review low-quality patents that are vague, abstract, or overly-broad.

We need legislation that contains all of these core elements to reduce existing incentives in the patent assertion system that enable trolls to threaten startups with baseless infringement claims. Unless these patent litigation reforms are enacted, patent trolls will continue to be free to exploit dubious patent claims and the high cost of litigation to extort settlements from startups.

V. THE COURTS AND THE PTO MUST CONTINUE TO IMPROVE PATENT QUALITY

It is clear that bad patents play a central role in the troll business model, and the courts and the PTO must continue to wrestle with clarifying standards and rigorously implementing them in reviewing issued patents and issuing new ones. A series of recent Supreme Court decisions has clarified and strengthened standards on patentability, but the impact of these decisions is limited to the tiny percentage of cases that are litigated or challenged through the PTO's post-grant proceedings. Even then, their impact will depend on the extent to which lower courts vigorously enforce these requirements and the extent to which the PTO adopts and rigorously implements these rulings at every stage of the examination process.

The Supreme Court issued six unanimous patent rulings in 2014. In *Alice Corp v CLS Bank*, the Court found the abstract business method patents involved invalid and declared them to be ineligible subject matter. In doing so, the Supreme Court sent a strong message that Internet patents need to do "substantially more" than to take an abstract idea and generically implement it on a computer or on the Internet. The Court did not invalidate software patents or business method patents per se, but the decision has cast doubt on the validity of these types of patents because so many are based on abstract or obvious ideas merely implemented on a computer or on the Internet.

Since the *Alice* decision in June 2014, the lower courts, including the Federal Circuit, have invalidated a string of "do it on a computer" patents. There is also some early evidence that the PTO is rejecting software patents at a higher rate in light of *Alice*. It is imperative that the courts and the PTO rigorously apply the requirements of *Alice*; but even if they do, improperly issued patents will continue to pose a real threat to startups. Hundreds of thousands of software patents have been issued and most will never be challenged in court or at the PTO. In fact, the majority of post-grant proceedings at the PTO explicitly do not allow a party to challenge patents on these grounds. So there is nothing in the *Alice* decision, or any other



decision, that makes it any harder for bad actors to assert patents to extract nuisance settlements.

In another important case, *Nautilus v Biosig*, the Supreme Court raised the standard for "definiteness," or specificity and clarity, in patent claims. Patents are required by law to include clear boundaries in order to serve its notice function. The *Nautilus* decision should make it easier to invalidate vague patents that lack clear boundaries. More specific claims are essential for effective technology transfer and putting the public on notice of what has actually been invented.

If properly implemented, these cases should help startups that face patent threats. *Alice* will enable the PTO to reject claims on abstract business methods that do not meet the "substantially more" test. This will be a useful tool since startups are particularly likely to be sued on these types of patents. The *Nautilus* decision should similarly encourage the PTO to reject claims that do not have clear and definite boundaries. Startups typically get demand letters with vague assertions of infringement based on patents that would be invalidated under *Nautilus*. The PTO has a clear mandate from the Court to ensure that vague or broad claims that reach beyond the actual invention are rejected.¹⁸

The PTO must also uphold its end of the bargain. It should adopt a more rigid standard for "functional claiming." It's not a coincidence that patent trolls use software patents as their weapon of choice. Indeed, one of the reasons those patents are the most dangerous is that they are so vague and so broad. Many patents lay claim to all possible approaches to a problem, instead of the specific solution proposed by the inventor. This is known as functional claiming and is endemic to software. Imagine this in the context of a different field: if for example, someone tried to claim any arrangement of molecules in a pill to cure headaches without specifying the composition that accomplished that goal. The resulting dangers are obvious.

This functional claiming problem can be fixed by requiring patent applicants to claim their particular solutions and how to actually implement those solutions (e.g., specific algorithms or even code) that accomplishes a task. In addition to functional claiming, the PTO should adopt better measurements of patent quality. The current measures essentially assume that if the PTO is taking the steps it believes to be necessary, patent quality will be satisfactory. We

¹⁸ These cases do not address the patent troll's other most favored weapon: the outrageous costs of patent litigation. Patent litigation is notoriously expensive, of course, and trolls exploit this. While one important Supreme Court case, *Octane Fitness v. Icon*, addressed at least some of this problem, it's so far had limited effect. The Court held that a judge could make a loser pay a winner's legal fees in "exceptional" cases, but, unfortunately, troll cases are no longer "exceptional." Furthermore, troll-friendly districts, such as the Eastern District of Texas, consistently deny attorneys' fees even in light of *Octane*.



believe the current quality metrics would greatly benefit from the introduction of more objective, and ideally external, criteria.

The PTO must continue to strive to improve patent quality by rigorously applying the law, and the courts must continue to enforce all of the requirements of the law as now clarified by the Supreme Court. But those alone are insufficient remedies, and only comprehensive legislation can remove the existing incentives in the litigation system that enable troll activity.

VI. REFORM LEGISLATION WOULD HAVE NO EFFECT ON PATENT HOLDERS ASSERTING VALID PATENTS OR GOOD FAITH CLAIMS

Opponents of robust reform legislation argue that the proposed changes in the law would have the unintended consequence of making it harder to assert valid claims. In fact, nothing in proposed comprehensive reform legislation would hinder an inventor from monetizing, asserting, or enforcing valid patents, or making claims that are substantially justified or objectively reasonable. Versions of legislation that we've seen so far, particularly the Innovation Act, strike the right balance and ensures that the bill in no way prejudices valid patents or meritorious claims made in good faith. The fact remains that the litigation playing field under current law is disproportionately skewed in favor of patent holders. It is therefore not surprising that companies that are likely to be patent plaintiffs, and the patent bar—which profits from ballooning patent litigation—would exaggerate potential unintended consequences in an effort to maintain their own existing advantages. Needed comprehensive legislation would create an equal playing field for plaintiffs and defendants; its passage is essential to curbing abuse and giving startups a fair shot at defending themselves against frivolous suits that extort inventors. If the 114th Congress is to enact any bipartisan legislation next year, patent reform must be at the top of the list. It is time for the President to sign meaningful legislation into law in order to relieve startups of this crushing threat and barriers to innovation.

About Engine

Engine is a non-profit organization that supports the growth of technology entrepreneurship through economic research, policy analysis, and advocacy on local and national issues. We do this work through two legal entities.

The Engine Research Foundation is a registered 501(c)(3), through which we produce research, provide advice to startups, and build public awareness campaigns. Engine Research Foundation has over 500 startup and investor partners in its coalition. Engine Advocacy is a registered 501(c)(4), through which we advocate and educate elected officials and policymakers. Together, these two organizations help us bridge the gap between the growing startup community and those who put in place our laws and policies at the highest levels.



For Immediate Release
March 3, 2015

Contact: Kat Maramba, (202) 827-9678, Kathrina@BlueEngineMedia.com

Innovation Alliance Supports STRONG Patent Act

WASHINGTON - The Innovation Alliance commends Senator Chris Coons (D-DE) for introducing the Support Technology and Research for Our Nation's Growth (STRONG) Patent Act. The STRONG Patent Act represents balanced and thoughtful legislation that will strengthen America's patent system without undermining our nation's innovation economy.

If enacted, this legislation will crack down on abusive demand letters; maintain the low-cost and expeditious nature of post-grant proceedings at the U.S. Patent and Trademark Office (USPTO) while ensuring fairness and minimizing unwarranted litigation. This legislation will also eliminate USPTO fee diversion to ensure the USPTO can properly and adequately staff and train patent examiners while also providing patent filers with timely and high-quality patents. Finally, the STRONG Patent Act will greatly assist and help small businesses to navigate the patent system.

The Innovation Alliance urges Congress to take up and pass the STRONG Patent Act to ensure that the U.S. continues to be the global leader in innovation.

###

ABOUT THE INNOVATION ALLIANCE

The Innovation Alliance represents innovators, patent owners and stakeholders from a diverse range of industries that believe in the critical importance of maintaining a strong patent system that supports innovative enterprises of all sizes. Innovation Alliance members can be found in large and small communities across the country, helping to fuel the innovation pipeline and drive the 21st century economy. Learn more at www.innovationalliance.net.



4 March 2015

The Honorable Christopher Coons
United States Senate
127A Russell Senate Office Building
Washington, D.C. 20510

Re: The STRONG Patents Act of 2015

Dear Senator Coons,

IEEE-USA is pleased to offer our support for the STRONG Patents Act of 2015 and we commend you for introducing legislation to revise U.S. patent law that balances the need to reduce abusive litigation with the need to sustain American leadership in innovation.

With the introduction of this legislation, you and Senators Durbin and Hirono have provided safeguards for U.S. technology entrepreneurs. These individuals are substantially responsible for creating the largest percentage of new high paying jobs, and are key contributors to economic recovery and U.S. competitiveness in the global markets. The STRONG Act includes proposals that IEEE-USA has continuously called for, namely elimination of USPTO fee diversion and an assessment of the impact of our patent system on the American economy.

Our patent system does have room for improvement and we thank you for proposing thoughtful legislation which targets the real problems without rushing to pass sweeping changes. Without carefully assessing the impact of changes on those who rely heavily on patent protection, anything else could negatively affect the inventors, entrepreneurs, and U.S. small businesses who have built our innovation economy.

IEEE-USA represents more than 200,000 engineers, scientists, and allied professionals whose livelihoods depend on American technology companies and their domestic research and development operations. Our members work for large and small companies, and as individual inventors or entrepreneurs, and depend on a strong American patent system.

We thank you for your attention to these important matters. If we can be of any assistance, or if you have any questions, please do not hesitate to contact Erica Wissolik at (202) 530-8347 or e.wissolik@ieee.org.

Sincerely,

James A. Jefferies
2015 President, IEEE-USA

IEEE-USA, 2001 L Street, N.W., Suite 700, Washington, D.C. 20036-5104 USA
Office: +1 202 785 0017 ■ Fax: +1 202 785 0835 ■ E-mail: ieeeusa@ieee.org ■ Web: www.ieeeusa.org

The Great Patent Debate: Changing Horizons

March 13, 2015

David J. Kappos

Introduction

I'll be honest. Some of what I am going to say today could cause discomfort in the Washington, D.C. policy community, but not because of the partisan divide, or on account of picking sides between conservatives and liberals.

Ladies and gentleman, the awkwardness is because I am going to speak about facts and data—and here in Washington D.C., facts and data are simply not the subject of polite conversation. Facts and data complicate the Washington narrative. In D.C., people have a set of a priori arguments they wish to make and they mold information to fit the arguments. Facts and data deflate rhetoric and emotion; they contradict carefully selected anecdotes; and, worst of all, facts and data can give us pause—force us to consider that the actions we are advocating as “decisive” and “bold” may actually be something else: reckless and destructive.

This morning I am going to demonstrate that we now have a lot of facts and data showing that our intellectual property system is rapidly returning to health. In fact, I submit to you that there is no patent troll driven crisis facing our nation that needs to be corrected with sweeping new legislation. Of course, the system can be further streamlined to reduce needless litigation, but no major overhaul is needed. An IP recovery in America has been driven by a steady course of treatment whose prescription was written out in 2011 with the passage of the America Invents Act.

Unfortunately, the prevailing D.C. narrative is that—unceasingly—patent troll games playing with our nation’s IP system has result in a rapid decline of the patent system’s health, and a litigation crisis in America. Some are working hard for that narrative to prevail in new legislation. However, I am here to offer a data-driven second opinion.

In addition to addressing the current direction of legislative reform, I will also share data bearing on the current debate surrounding the role of antitrust in IP—data that raises serious questions about the advisability of competition regulators and standards bodies taking aim at the IP system.

So, for a moment, let's pretend we're not in Washington, D.C. Let's

suspend our reliance on invective and instead give serious consideration to facts and data. My highest hope is that, going forward, we can bring these facts to bear on a debate that, while initially rooted in legitimate concerns, has along the way ceded ground to rhetoric—a rhetoric that has about as much to do with sustaining innovation as Chicken Little’s famously dire prognostications had to do with holding up the sky. And I hope we do so not for the purpose of opposing reform, but for the purpose of ensuring the reform we undertake is the smart reform that’s needed, and no more.

Part I. Legislative Reform

As anyone familiar with my tenure at the USPTO, or my work before or after, can attest, I can hardly be categorized as someone who is “anti-reform.” The American patent system is the greatest innovation engine the world has known and I have long contended that, like any piece of intricate machinery, it is in need of perpetual upkeep and habitual calibration. As industries and technologies change, so must the system change that incentivizes and sustains value in innovation. The flexibility of the patent system, and our ability to periodically adjust it to changing conditions, facilitates the optimization—not minimization or maximization—of IP.

Yet we must guard against a tendency toward myopia that historically has driven—and presently is driving—calls for drastic reform. Outsized anxiety over patent litigation is nothing new. The recent “smartphone wars” are no more the harbinger of an inevitable innovation decline than were fights over sewing machines in the mid-1800s, the telegraph in the late 1800s, or airplanes in the early 1900s. Some reasonable level of disputes is inherent in an IP system whose success depends on flexibility, and every generation has experienced this tension.

The key to successful maintenance of the patent system is recognizing that it is a system of long time constants. The impact of present changes will only be realized many years down the line. Addressing today’s issues—which are real but not dire—through a massive overhaul of the system is like addressing a hangnail with an amputation: the immediate problem will be obviated, but a slew of graver, irreversible problems will arise in the solution’s wake.

Ironically, while the major reform movement threatens to undermine a

patent system that has long been the envy of the world, a simultaneous movement toward increased dependence on IP protection globally threatens America's status as the foremost innovation economy. In the life sciences, for example, a recent study published in the Journal of the American Medical Association revealed a significant drop in the percentage of patents considered most valuable in the field held by the U.S.—from 73% in 1981 to 59% in 2011. The National Institutes of Health recently expressed serious concerns with this data, lamenting that China is now filing more patents in biomedicine than the U.S.—and not just as a portion of GDP, but in absolute numbers. Competition from overseas makes the consequences of bad reform that much worse. And our overseas competitors are looking on right now, not knowing whether to laugh or cry. Those seeking to copy American innovation are laughing at the prospect of the US significantly weakening its patent system and giving a leg up to our competitors. Those seeking to have their countries strengthen their IP systems so that they too can enjoy the fruits of innovation are crying because the gold standard is being undermined.

I attend meetings all over the world and everywhere I go, the question is asked, “why is America unilaterally weakening its patent and IP system, a key global competitive advantage to your country?” And I don’t have a logical fact-based answer to the question, other than to say, those of us who care about the system are working to mitigate against overly broad changes that harm American innovation and job creation. I am also increasingly optimistic that we can moderate any legislation in the Senate so that it does no harm to the most innovative U.S. companies and universities. As an example, the new STRONG Patent Act has good ideas I hope will be picked up in the Senate.

Before outlining the specific drawbacks of recent proposed “solutions” to what advocates bombastically refer to as a “broken” system, let’s examine the key facts and data. First and foremost, the data that the sky-is-falling alarmists are finding the hardest to swallow: an irrefutable decline in patent litigation. In 2013, reformers decried the unprecedented levels of patent litigation and built a reform narrative around “out-of-control” patent litigation, promising it would only soar to new heights unless reform was initiated, and *now*.

Well, so much for that rallying cry: every credible study of 2014 patent litigation trends has reported that, from 2013 to 2014, there was a roughly

18% decline in the total number of patent suits nationwide. Recognizing the incongruity of this trend with the 2013 narrative, the storytellers have moved the goalposts. The new focus has shifted from recent trends to a selective look-back against 2010 levels. The sleight-of-hand lies in the apples-to-oranges comparison, as the increase in the number of patent suits since then has nothing to do with an increase in actual disputes, but rather with procedural changes altering the rules for joinder brought into effect by the AIA.

The fiction of an astronomical increase in patent litigation is undermined by the facts: adjusting for procedural changes of the AIA, patent litigation at the end of 2014 was actually commensurate with 2009-2010 levels. And in a recent comprehensive study of 2014 trends, it was revealed that the number of litigants in new district court patent cases declined over 23% from 2013 to 2014, down to 16,089—the lowest level since 2009.

When pressed for an answer to how these facts impact the debate, advocates downplay the decline—characterizing it as “small” or “insignificant.” It is ironic, if unsurprising, that advocates who relied on a fever pitch of commentary over patent litigation increases have been so muted in addressing the decrease. If these same folks downplaying the trend saw a nearly one-quarter decline their retirement investment portfolios or annual salaries, you can’t help but think they’d be using words other than “small” and “insignificant” to describe the impact.

At the same time we have witnessed a pronounced decrease in patent litigation, we have seen a profound increase in new USPTO proceedings brought into effect by the AIA. As of February 2015, there have been 2,872 requests for such proceedings—roughly three times what was anticipated at the time the AIA was enacted. To put this in context, there have been 2,553 requests for inter partes review since September 2012, compared to 1,841 requests for the analogous proceeding over the course of the entire *13 year* period preceding the AIA.

The big concern over post-grant proceedings during negotiation of the AIA was that they would merely rubber stamp PTO examination actions. As it turns out, these proceedings have been anything but a rubber stamp. Data show that 86% of IPR requests are instituted by the PTO, and 77.5% of those initiated have found at least one claim unpatentable. If anything, the pendulum may now have shifted in the other direction—with complaints that

invalidation rates are *too* high. But in the three appeals of PTAB decisions heard so far, the Federal Circuit has completely backed the Board's findings. Thus, the evidence suggests PTAB is making the right decisions, and there is every reason to believe it will continue critically reviewing the cases before it.

This speedier and less costly alternative to litigation is proving to be an immensely popular and impactful tool for correcting the problem of unmerited patents. Importantly, these proceedings are not merely happening in addition to ongoing court cases, but appear to be supplanting them. 80% of IPR proceedings have been conducted with parallel litigation pending in district court, with 76% of those cases producing a motion to stay, with a grant rate of 82% of those motions. Moreover, rarely mentioned is that 41% of instituted post-grant proceedings in the PTO (or roughly 17% of all petitions) have resulted in settlement between the parties, which saves both PTO and district court judicial resources, effectively subtracting these cases from the court filings. And a further 5% result in requests for adverse judgment, also effectively subtracting these cases from the court filings and setting them up for efficient appeal to the CAFC. The substantial rate of settlement and request for adverse judgment at the PTO proceeding level—not to mention the immeasurable settlements entered into to avoid the filing of a petition in the first place—contribute to an additional reduction in district court litigation, which as previously discussed is already at its lowest level in at least five years.

All this data taken together screams that the AIA is working, and that whatever further tinkering is needed, it should take a light touch.

While rising patent litigation rates were until recently the cornerstone of the major reform movement—and the most loudly trumpeted indicator of a “broken” system—there exist other perceived problems undergirding the calls for further major rewriting of our patent laws. Once again, however, the facts and data prove inconvenient for proponents of drastic legislative reform.

Fee Shifting

Take for example the push for shifting attorney fee awards—the move toward a “loser pays” system of patent litigation. Not only is it unclear which parties would stand to gain the most from such a system, but, again, events over the course of the last year have significantly undermined calls

for congressional action. Federal courts have always had the discretion to award attorney fees to the prevailing party in exceptional cases, although historically they rarely used that discretion. Last term's Supreme Court decisions in *Octane Fitness v. Icon* and *Highmark v. Allcare* have required that courts grant such awards more readily and that these awards be afforded greater deference on appeal. The practical effects of these two decisions remain to be seen, and comprehensive studies have yet to be performed. But at least one early study examining samples of awards pre-*Octane* vs. post-*Octane* has revealed a clear increase in the rate at which awards are granted, from a pre-*Octane* rate of 32% for 2011-2013 cases to a rate of 45% for cases since *Octane*. Turning now to raw data on denied motions for attorney fees under Section 285, U.S. district courts have ruled on 924 such motions since 2008. The denial rate hovered around 60% until 2013, when it increased to 67%. But it appears *Octane Fitness* and *Highmark* may be reversing the trend. Last year only 57.6% motions were denied, and the denial rate in 2015 to date is only 48%.

Those concerned about fee-shifting legislation beyond what the Supreme Court has already mandated judicially point to inherent problems, such as the difficulty in identifying a "prevailing party" in the common situation where a litigant prevails on some issues but not others, and the difficulty in legislating a "reasonable fee." When these inherent difficulties are viewed in the context of a judiciary with newly enhanced discretion to award such fees, and with the advantage of case-by-case analysis, one can't help but ask: exactly what work would legislatively mandated fee-shifting perform?

Covered Customer Stay

Another area where major reform is being urged is for covered customer stays. Facially, the notion that "mere users" of potentially infringing technologies should be dismissed from litigation predominantly targeting parties higher up in the supply chain seems perfectly reasonable. But there are two problems with the legislative approach. First, many technologies are highly customizable—meaning that the rigidity of a statutory fix is unlikely to adequately distinguish between infringement that is inherent in the technology (in which case a stay is appropriate) versus infringement caused by aftermarket modification (in which case the user is not properly dismissed from the action). Second, federal courts already have the authority to stay litigation against peripheral defendants. And once again the facts become problematic for the major reform narrative, as data show that courts are readily using that authority.

In 2014's *In re Nintendo*, the Federal Circuit severed claims against a retailer from claims against the manufacturer, staying the retailer claims. Since that case, there have been three motions to stay in cases having facts similar to *In re Nintendo* and, in all three, the motion to stay has been granted. Looking at district court cases over the last fifteen years, I can point to 30 motions with a similar fact scenario—over two-thirds of which have been granted. As is the case with attorney fee awards, courts are in the best position to make decisions on stays based on the facts of a particular case. Were courts demonstrating an unwillingness to make that call, perhaps a congressional nudge would be warranted—but this has not historically been the case and, as demonstrated by *In re Nintendo* and its progeny, is unlikely to become so. Hence, while hypotheticals of customers hailed into court for unwittingly using an infringing device purchased from a retailer may provide an effective lobbying tactic, the facts demonstrate no necessity for congressional action in this area.

Section 101

Now, lest I be accused of holding a love-in for the judiciary's effectiveness in correcting issues of patent jurisprudence, I'll turn now to an area in which the courts seem to have lost their way. I am talking now about what Federal Circuit Judge Jay Plager has appropriately described as the "murky morass that is Section 101 jurisprudence"—the controversial question of patentable subject matter.

Sadly, the inquisition has become relentless. The Supreme Court has waded into the murky morass of Section 101 four times in as many years. To make matters worse, subject matter patentability has proved to be even more of an attractive nuisance for the lower courts. What *should* be the avenue of last resort in a challenge to patent validity has become Question #1—even though all or virtually all of the sweeping decisions being made under Section 101 could be better decided under Sections 102, 103 and 112. In fact, and I say this only half-jokingly, if there was a mistake we made when working on the AIA, it was our failure to move Section 101 to Section 999—if only to reinforce that the patentable subject matter inquiry should be the *last* question the courts ask, not the first.

So why should we care whether unmerited patent claims are invalidated under Section 101 versus some other part of the statute? Because decisions perceived as arbitrary—which so many of the "I know it when I see it"

decisions made under Section 101 are—have a material impact on the actions of businesspeople and investors and innovators. The grounds of an invalidation decision are not just some jurisprudential exercise; they play a pivotal role in practical R&D strategy. Invalidating patents on novelty or nonobviousness grounds helpfully discourages recycling and repackaging old ideas in the guise of new media; invalidation on claim definiteness or disclosure grounds encourages appropriately bounded claims and a written description that enables the invention. But invalidation that merely looks to the “gist” of an invention (without serious consideration of the claims), declares it “abstract” and insufficiently “inventive”—which is exactly what the courts are doing—harmfully diverts investment from entire categories of invention.

Inventions on the frontiers of technology are particularly susceptible to being deemed abstract, precisely *because* they lay at the edges of what is known. These are inventions in technologies that hold immeasurable promise to improve our lives—software, biotechnology, big data, just to name a few. Inventions in these fields risk underinvestment due to a rising perception that the rules applicable to inventions in more familiar fields simply do not apply, and instead that inventions in these unwelcome fields are categorically unpatentable. The patent system was never designed to discriminate between categories of invention, but over-reliance on Section 101 is having precisely that effect.

The rising obsession with Section 101 is a dangerous phenomenon. Consider, for example, the substantial role that software innovations play in sustaining America’s prominence in the innovation sector. What could we possibly stand to gain by allowing Section 101 jurisprudence to denigrate software patents? Whether or not intentional, the data suggest this denigration is occurring at alarming rates, particularly since the Supreme Court’s most recent decision on Section 101, *Alice v. CLS Bank*.

A recent study of 40 federal court decisions applying the *Alice* framework found that of the 72 patents considered (66 computer or software related and 6 in the life sciences) less than 17% survived challenges under *Alice*. Further, 85% of the time, the court’s litmus-test view on whether the inventive concept (as opposed to the patent claim itself) is abstract aligned with the final determination of patentability under Section 101. Some argue these invalidation rates represent a correction for previous over-patenting in the software industry—yet studies of invalidation rates have consistently

demonstrated that software patents are *not* statistically prone to being “bad” patents. Make no mistake: if America denies robust protection to software innovations, decreased investment will inevitably follow—eroding a competitive advantage in a sector that has proven vital to the United States economy. Again, to the benefit of overseas competitors who would like nothing better than an open ticket to copy US software innovation.

I'm not here to comment on the wisdom of the “abstractness” standard posited by the Supreme Court in *Alice*. While it is a highly subjective standard, and therefore an imperfect one, it might be the best we can do for now. The problem is relying on that imperfect standard when it is unnecessary to do so. Section 101 was always meant to be a coarse filter, and is extremely ill-suited for the fine-grained matters courts are increasingly running through it. Despite an express warning from the Supreme Court in the *Alice* opinion to “tread carefully” in construing Section 101's exclusionary principle “lest it swallow all of patent law”, the lower courts have read onto *Alice* a command to begin every case touching on patent validity with a Section 101 inquiry.

The courts need to place primary emphasis on the Section 102, 103, and 112 standards for patentability. They will find most inquiries better addressed, and more helpfully addressed for patentees and the public alike, under these standards. And if there is anything Congress can do to encourage movement in this direction, that I would welcome. A move away from over-reliance on Section 101 would reassure innovators that breaking new ground in dynamic, unfamiliar fields will be rewarded to the same extent as inventions in other areas.

Unfortunately, the complex issue of Section 101 reform does not even register in the patent troll centric debate. Subject matter eligibility is an important issue, but not one requiring more application of Section 101 in the courts.

Part II. Competition Matters

At the same time the patent system has come under siege from critics who all-too cavalierly seek to heap reform on top of reform, there is also a surge in favor of cheap, immediate access to today's most in-demand technologies using a separate body of law: antitrust. Ironically, against the backdrop of some of the most fiercely competitive industries in existence,

we see competition law being used to debilitate the strong innovation incentives provided by patent protection.

I will leave it to others during today's panels to discuss the details and advisability of the new IEEE rules on standard essential patents and the DOJ's prompt endorsement thereof. I would however, encourage us to take a step back and ask what data—not rhetoric—would suggest that these major policy changes are needed. In the case of the new IEEE SEP rules, they come on the heels of IEEE's creation, under its **old** policy, of 802.11, which IEEE itself touts as a heritage accomplishment. It just seems odd to me that the demonstrated success of the old policy in creating one of the most important and successful standards known to mankind would provide the groundswell to throw out the old policy in favor of a new approach that, whether "good" or "bad" overall, unquestionably tilts the field in favor of standards implementers over innovators. Has IEEE, like the infamous USPTO Commissioner over 115 years ago, concluded that all important inventions have already been created?

As with legislative reform, many of the supporters of an anti-trust solution to the patent "problem" rely on a narrative rooted in emotional appeals and absent facts. It is not difficult to imagine how this narrative has gained traction. Like Tom and Jerry, the Hatfields and McCoys, and the Yankees and Red Sox, antitrust authorities and monopolies have a storied rivalry—never the twain shall meet. And make no mistake, a patent **is** a monopoly of sorts. So it is no wonder the patent system should be scrutinized by agencies attuned to rooting out and busting up monopolies.

But a patent is a singular kind of monopoly. First of all, patents have term limits. To the extent the monopoly afforded by a patent poses a threat to competition (and I intend to show this is not actually the case) that threat is temporary, by definition.

Second, a patent is a monopoly on something that would not even exist but for the patent itself. So to the extent a patent takes something away from competitors, it is taking something away that competitors did not have access to in the first place. And when you explore the principal alternative to a strong patent system—trade secrecy—you end up with barriers to innovation of an infinite duration, a frustration of collaboration, and an inefficient allocation of resources that diverts from exploitation of technology toward concealing it. So the alternative isn't very fine.

Finally, in patents we have a monopoly to which our nation's founders expressly gave their blessing. Patent protection was acknowledged as so important to American development that it is provided for directly by the Constitution. As vital as competition law may have become, there is no "antitrust clause" in the Constitution, and certainly no "antitrust exception" to the Patent Clause.

Now, proponents of competition law trumping IP will make the argument that times have changed. Patent "thickets" and patent "holdup", they say, are an unprecedented phenomenon that could never have been envisioned by the founders. Never mind that our nation's most celebrated inventor, Thomas Edison, protected his innovations with over a thousand patents, and the first so-called "thicket" dates back to the Sewing Machine War of the 1850s. These proponents will tell you that patent pooling and standards setting must be scrupulously regulated, or else the public will be denied "fair" access to today's technologies.

The proponents tend *not* to speak about tomorrow's technologies, which, without the promise of exclusivity, have little chance of attracting the level of R&D investment required to bring them to fruition. And, unsurprisingly, the proponents tend not to present analyses of the available data. These data paint a picture of consumers who are not only enjoying access to cutting-edge technology, and at reasonable prices, but who also hold voracious appetites for improvements that can only be delivered as a result of further R&D investment.

Mobile technology is at the center of the controversy over competition law's role in the great patent debate, and thus a recently released comprehensive study by the Boston Consulting Group of the technology's impact can help put the debate into context.

One of the great ills that competition law seeks to cure is artificially inflated prices tolerated on account of monopolistic practices. To be sure, the exclusivity offered by patents allows the patent holder to command higher prices than it would command without the patent—that's the whole point of the patent. But because of licensing, follow-on technologies, and other outcomes flowing from the disclosure-incenting patent system, the benefits outweigh the costs. This is borne out by one telling fact from the BCG study of mobile technology: the average mobile subscriber cost per

megabyte decreased a dramatic 99% between 2005 and 2013. Infrastructure costs have also seen dramatic falls, with a 95% cost reduction per megabyte transmitted from 2G networks to 3G networks, and a further 67% drop from 3G to 4G networks.

What consumers pay for mobile technology and the value they ascribe to it similarly demonstrate that the patent system is far from a barrier to access. BCG's research across the top six geographic markets for mobile reveals that each consumer values their access to mobile technology at between \$700 and \$6,000 overall, contributing to a \$6.4 trillion surplus above the cost of the devices and services across these six countries.

And consumers are hungry for more advances: 90% of 3G and 4G consumers report wanting faster data speeds, greater coverage and longer battery life, among other improvements. Global data usage is doubling every year, which could lead to data traffic within the decade 1,000 times greater than today's levels. In order to accommodate this skyrocketing demand, investment in new technologies will be crucial. Companies in the mobile value chain invested \$1.8 trillion in infrastructure and R&D from 2009-2013, with companies focused on mobile's core technologies investing a whopping 21% of revenue in R&D—as a percentage of revenue, second only to the biotechnology industry.

And what do industry commentators have to say about the problem of patent "hold-up" allegedly facilitated by standard essential patents? The Alliance for Telecommunications Industry Solutions reported that it "has not experienced the hold up problem"; the Telecommunications Industry Association reported that it "has never received any complaints regarding such 'patent hold-up"'; the American National Standards Institute reported that "for only a relatively small number [of standards] have questions ever been formally raised regarding [its] Patent Policy, including issues relating to improper 'hold up.'" Professors and analysts have noted the absence of empirical evidence indicating a significant problem of patent "hold-up" or of windfall gains to patent owners impeding the adoption of technology-based standards across industries. And in the cellular industry, it has been noted that implementers and carriers—not technology developers—already reap the overwhelming majority of profits generated by the products enabled by licensed IP.

Once we examine the data we find that, as pertains to IP, antitrust provides a

solution to a problem that just doesn't exist—except, of course, for those utilizing a business model built on reaping the tech harvest innovators have sown.

This does not mean there can be no role for competition law across the spectrum of IP-reliant industry. But we need to bring antitrust into the 21st century. Acknowledging that the patent law itself is a check on harmful monopolistic practices, antitrust authorities would be most effective operating on the fringes of IP. The FTC need not weigh in on what are fair reasonable and non-discriminatory terms and certainly should not be forcing royalty prices down. The proper role for competition law is to make examples of those few egregious behaviors demonstrating truly anti-competitive impact.

The FTC did just this when it went after MPHJ Technology Investments, a patent assertion entity accused of using manifestly deceptive tactics in extracting royalties for patents by threatening lawsuits that were ostensibly meritless and that it had no intention of ever filing. As the Director of the FTC's Bureau of Consumer Protection said upon reaching settlement with MPHJ, "a patent is not a license to engage in deception." When patent holders cross the line from collecting on their investment in innovation and engage in making idle and surreptitious threats, then FTC intervention benefits innovators and consumers alike. Deterring such abuse complements the existing protections built into the patent system.

But make no mistake: when it comes to cases other than the truly egregious, antitrust intervention is not necessary, and serves only to deter the very investment in innovation the patent system was carefully engineered to encourage.

There are already plenty of market forces in play to address concentration of power—if you don't believe me, I would ask how many of you in the audience today are carrying in your pocket a Motorola pager or a Nokia cell phone? One company or another has always been touted as an existential threat to an efficient tech market, and yet the threat never seems to materialize. And the fact that the threat never materializes is not in spite of patents, but rather *because* of them.

Patents may be a type of monopoly, but they are far from a guarantor of market position. While counterintuitive, in reality it is the patent laws,

more so than antitrust enforcement, that are best suited to thwart market dominance in fields that rely on technological advancement. The patent laws provide the most powerful incentive there is for new entrants to invest in creating new technologies. And it is just these technologies that routinely disrupt dominant firms, ultimately dislodging their dominant positions. The stronger the incentives provided by the IP laws, the higher the likelihood of disruption, and the faster the disruption. Were the new, more nimble entrants' technological contributions freely and immediately exploitable by the monolithic standard-bearers in the field, such disruption would be extremely rare. Ironically then, the best policy move we can make to advance the purpose of the antitrust regime is actually to **strengthen** the IP system. Let's name that the STRONG patents doctrine: the stronger the patent system, the less risk of harmful market concentration.

Conclusion

My remarks today may cause some to wonder whether I have turned overly hawkish on patent litigation reform, opposed to any further legislation. Not so. There are balancing improvements that clearly need to be enacted: measures to curb egregiously aggressive demand letters, articulation of goals for pleading and discovery as guidance for the Judicial Conference, redirection away from undue judicial emphasis on Section 101, and, critically, putting an end to PTO fee diversion. Add to this some adjustments to the post-grant reviews at the PTO created by the AIA, and a measure that stops abusive stock market manipulators from new pump-and-dump schemes that threaten the health of our bio-pharma industry, and we'll have made the world's best patent system even better. So reform, yes, but **smart** reform.

Intellectual property represents a long term investment system that is perpetually pitted against short-term exigencies. Very simply, our patent system is like a retirement savings plan. Historically, we have agreed as a nation to pay a little more now for today's innovations in exchange for having more great innovations available in the future.

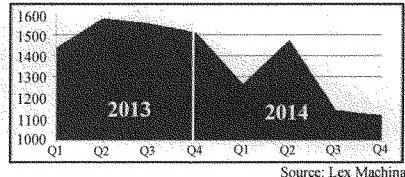
As we wrestle with competing short-term and long-term objectives, it is crucial that the arguments rest soundly on facts and data, and are not hastily propped up by misleading anecdotes and divisive rhetoric. When appropriately bounded by appeals to the practical realities of our innovation

ecosystem, the patent debate can lead us to a more finely tuned system balancing access to today's technology with the promise of tomorrow's advances. Conversely, harried reform efforts and collateral attacks from other bodies of law that are not constrained by thoughtful analysis imperil the greatest innovation engine the world has ever known. That in turn undermines the competitive position of our country and the job creation engine that has been uniquely American for generations. If we are to remain a first-rate innovator nation, we must be careful never to let today's politicized narrative persuade us to forego the tremendous technical wonders that lie just beyond the horizon.

An Overview of the United States Patent System, 2015
 By David J. Kappos

Patent Litigation Declining

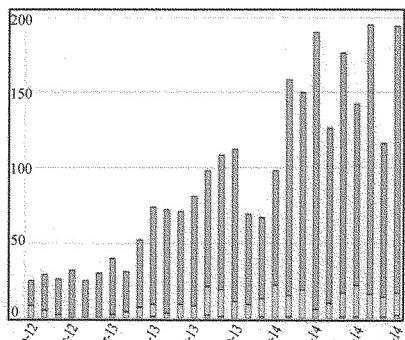
- 18% decline in total number of patent suits in 2014 vs. 2013 (down to 5,008 from 6,083)



Source: Lex Machina

PTO Challenges Prove Popular and Potent

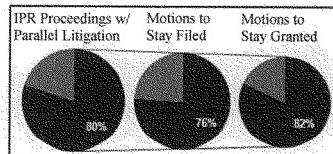
- 2,664 requests for new challenge proceedings made available under the AIA (as of January 22, 2015)—roughly 3X what was anticipated when the legislation was enacted.
- 2,363 requests for inter partes review (IPR) since September 2012—compared to 1,841 comparable requests over 13 years of pre-AIA regime.
- 86% of IPR requests have been instituted by USPTO.
- 77.5% of instituted IPRs have found at least one claim unpatentable.



Source: U.S. Patent and Trademark Office

PTO Challenges Reducing Litigation

- 80% of IPR proceedings have been conducted with parallel litigation pending in district court.
- 76% of cases with parallel PTO proceedings produced a motion to stay.
- 82% of motions to stay in cases with parallel PTO proceedings have been granted.
- 3 of 3 2014 Federal Circuit opinions considering motions to stay due to pending PTO review favored such motions.
 - *Versata Software v. Callidus Software and VirtualAgility v. Salesforce.com* reversed district court decisions denying motions to stay and *Benefit Funding Systs. v. Advance Am. Cash Advance* affirmed a district court decision granting a motion to stay.



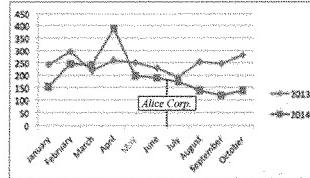
Source: Love and Ambwani (2014)

Supreme Court Making an Impact

- The Supreme Court heard an unprecedented six patent cases in its most recent term, addressing critical issues that are simultaneously the subject of reform proposals.

- **Software Patents**

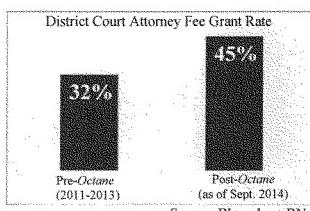
- *Alice Corp. v. CLS Bank* held that abstract computer claims are not patentable.
- 42% decline in applicable suits in first four calendar months following decision vs. same period in 2013.



Source: Managing IP

- **Attorney Fee Awards**

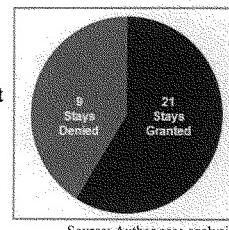
- *Octane Fitness v. Icon Fitness & Health* provided that attorney fee awards be granted to prevailing party in more cases.
- *Highmark v. Allcare* increased deference to district court fee awards.
- 45% attorney fee grant rate by district courts since *Octane* was decided, compared to approximate 32% grant rate pre-*Octane*.



Source: Bloomberg BNA

Covered Customer Stays Granted

- Federal courts already have authority to stay litigation against peripheral defendants.
 - The Federal Circuit's 2014 *In re Nintendo* decision severed claims against the retailer from claims against the manufacturer and stayed the retailer claims.
 - 3 of 3 motions to stay have been granted in district court cases having facts similar to *In re Nintendo* since that decision issued (*Telebrands v. Nat'l Express*; *Am. Vehicular Sciences v. Toyota Motor Corp.* and *Pipeline Techs. v. Telog Instruments*).
 - 21 of 30 motions to stay have been granted in district court cases having facts similar to *In re Nintendo* in the last fifteen years.



Source: Author case analysis

Conclusions

- Problems of abusive patent litigation are real and deserving of bipartisan legislative attention, but recalibration of the patent system must be rooted in facts that contrast with the anti-patent rhetoric driving much of the debate.
- The effects of the most recent major reform effort, the America Invents Act (AIA), are thus far encouraging and have yet to be felt in full.
- The facts show that existing measures are potent and are being utilized to a greater extent than expected.
- The patent system is a long time constant system—overcorrection will not manifest until years after serious damage is done.
- Preserving the patent system's powerful incentivizing effect on invention by providing robust intellectual property protection is of paramount importance to maintaining our nation's stature as the global leader in innovation.

MDMA Statement on Introduction of the “STRONG Patents Act”

Legislation provides a balanced, targeted approach to end abuse, support innovation

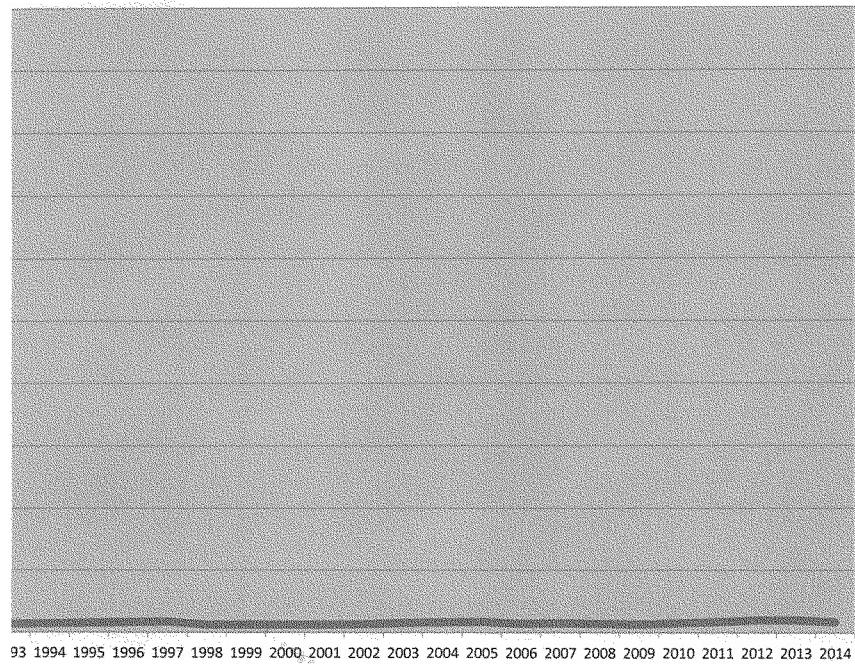
Washington, D.C. – Mark Leahey, President and CEO of the Medical Device Manufacturers Association (MDMA), issued the following statement today regarding legislation introduced in the Senate, the “STRONG Patents Act,” which is designed to thwart frivolous patent lawsuits while leveling the playing field for inventors:

“MDMA applauds the introduction of the ‘STRONG Patents Act’ for its measured approach to address issues facing our nation’s patent system. We commend the leadership of Senator Coons for his support of entrepreneurs and start-ups across America’s innovation ecosystem.

“While MDMA supports efforts to deal with patent litigation abuse, we must ensure that any legislation to address this problem does not have the unintended consequences of weakening one’s patent rights. The ‘STRONG Patents Act’ targets the concerns of patent holders to end abusive practices, while establishing balance in post-grant proceedings at the PTO and eliminating fee diversion.

“A vibrant and strong patent system is the cornerstone of U.S. innovation, and all stakeholders must continue working together to maintain this delicate balance to protect inventors and future economic growth. MDMA looks forward to working with Senator Coons and all elected officials to ensure America’s innovation economy remains the envy of the world.”

####

Filed Cases as a Percentage of All US Granted Patents



Statement for the Record

National Association of Home Builders

Senate Small Business and Entrepreneurship Committee

Patent Reform: Protecting Innovation and Entrepreneurship

March 19, 2015

On behalf of the more than 140,000 members of the National Association of Home Builders (NAHB), NAHB appreciates the Committee's attention to patent reform, an important issue that is increasingly affecting home builders and other small businesses nationwide.

America's patent system has long served to foster great innovation while rewarding small inventors for their intellectual contributions to progress. Unfortunately, the actions of a few increasingly serve to undermine this system and unduly burden many of our country's small businesses. It is perhaps a testament to how pervasive the problem is that home builders have now become one of the latest, though surely not the last, targets of patent trolls and their deceptive patent demand letters.

Patent trolls make use of misleading and threatening patent demand letters to extort licensing fees from small businesses that often lack the resources and expertise to defend themselves from specious claims of patent infringement. It is not surprising that NAHB members have become a target of this shakedown scheme. Our members are the prototypical family-owned small business. As measured by workers, more than 80% of NAHB builder members have fewer than ten employees, with the average member supporting approximately 11 employees.

Rather than face the daunting and costly prospect of litigation, NAHB's members stymied by these vexing patent demand letters are left to either take time away from their work to research and respond to typically vague letters, or simply succumb to the demand to pay a licensing fee to avoid being sued. Unfortunately, given the intentionally vague nature of these letters, builders may view the latter as a more attractive option and opt to pay the fee.

Targeting small businesses has proven a lucrative business model for patent trolls. Congress must act quickly to address the mounting abuses of the patent system and protect small main street businesses.

Putting the Trolls Out of Business

The best approach to protecting our patent system while putting trolls out of business is one that considers and addresses each of the many weapons the trolls have at their disposal. In order to do this, NAHB believes you must:

Reform abusive demand letters: Require that patent demand letters include truthful, basic information. Patent trolls send vague and deceptive letters alleging patent infringement to demand unjustified payments from innocent individuals and businesses. Vague demand letters should not be used to bully innocent businesses into paying what amounts to protection

money.

- **Make trolls explain their claims:** Require patent owners to explain in detail the basis for the alleged infringement when they file a complaint. Current law does not require that a patent holder explain how a patent is infringed, or even identify the product involved, which makes it nearly impossible someone who has been sued to evaluate the case and decide how to proceed.
- **Protect innocent customers:** Ensure that claims between a patent owner and a manufacturer proceed before claims between the patent owner and the manufacturer's end users. Under current law, anyone can be sued for infringement for simply using a product, system or method. We don't want to change that. Instead, it simply makes sense for cases against end users to be stayed in favor of cases involving the manufacturer.
- **Make patent litigation more efficient:** Make patent litigation more efficient so that weak cases can be dismissed before expensive discovery. Requiring patentees to explain and judges to decide what a patent means at the beginning of a case—the Markman hearing—narrows the case to the actual legal issues in question, drives early resolutions and avoids unnecessary and expensive discovery.
- **Stop discovery abuses:** Require trolls to pay for the discovery they request beyond core documents so that they cannot run up costs just to force a settlement. Since trolls do not actually make or create anything, they have few documents to produce and no incentive to be reasonable in their discovery requests. Making trolls responsible for the costs of their discovery requests that go beyond the core documents needed to decide most patent issues will stop unreasonable demands made for negotiation leverage.
- **Make abusive trolls pay:** Require that a losing party who brings a frivolous case pay the other side's attorney's fees. Trolls currently have few barriers to litigation with no significant costs. A stronger presumptive fee-shifting statute and a mechanism to ensure court ordered fee shifting is enforceable will deter nuisance suits.
- **Provide less expensive alternatives:** Maintain and improve administrative alternatives to litigation. Ensuring access to efficient and fair mechanisms to re-examine questionable patents will reduce litigation abuses and strengthen the patent system.

Conclusion

NAHB appreciates the effort of this Committee to consider the burden patent trolls have wrought on our nation's small businesses. We appreciate your consideration of our views and stand ready to work towards solutions that will protect small businesses and preserve the right of America's innovators.



Chris Polychron, CIPS, CRS, GRI
2015 President

Dale A. Srinton
Chief Executive Officer
GOVERNMENT AFFAIRS DIVISION
Jerry Giovannicello, Senior Vice President
Gary Weaver, Vice President
Joe Ventrona, Vice President
Scott Reiter, Vice President
Janie Gregory, Deputy Chief Lobbyist

500 New Jersey Ave., NW
Washington, DC 20001-2020
Ph. 202-383-1194 Fax 202-383-7580
www.REALTOR.org

March 17, 2015

The Honorable Chuck Grassley
Chairman
U.S. Senate Committee on the Judiciary
135 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Patrick Leahy
Ranking Member
U.S. Senate Committee on the Judiciary
437 Russell Senate Office Building
Washington, DC 20510

Dear Chairman Grassley and Ranking Member Leahy:

On behalf of the more than one million members of the National Association of REALTORS® (NAR), who facilitate nearly 5 million home sales, boosting the American economy, we urge your strong support for strong comprehensive patent litigation reform. Litigation and threatened litigation from abusive patent trolls divert resources away from more productive activities including property sales and investment in new technologies that enhance the consumer's real estate experience and lead to job creation.

NAR, whose members identify themselves as REALTORS®, represents a wide variety of real estate industry professionals. REALTORS® have been early adopters of technology and are industry innovators who understand that consumers today are seeking real estate information and services that are fast, convenient and comprehensive. Increasingly, technology innovations are driving the delivery of real estate services and the future of REALTORS® businesses.

We write to explain how the real estate sector has been impacted by spurious infringement claims asserted by non-practicing entities (NPEs), or "patent trolls." We urge your committee to swiftly pass meaningful reform legislation to curtail abuses when NPEs claim intellectual property rights in "sham" patents that are overly broad and lack integrity; send poorly researched but threatening demand letters to extort licensing fees from business owners; and file vague and frivolous lawsuits.

In 2012, patent trolls sued more non-tech companies than tech companies, at an estimated cost to the U.S. economy of \$80 billion on court battles. The number of defendants in patent lawsuits increased roughly 129 percent over the four year period from 2007-2011, according to the U.S. Government Accountability Office. Real estate businesses, tenants, brokers and service providers have been threatened and targeted with spurious patent infringement claims, in contexts that include the following:

- Brokers implementing website technology to allow zooming in to located points of interest on a map and creating home search alert function
- Building owners and tenants that use standard, off-the-shelf routers to provide Wi-Fi access for hotspots in lobbies, restaurants, atriums, and other common areas of buildings;
- The Multiple Listing Service, a critical tool for real estate agents that uses location-based search capabilities to identify homes and other properties available for sale or lease; and
- Businesses that attach scanned documents to emails to execute contracts, closings, and other commonplace real estate transactions.



REALTOR® is a registered trademark of the National Association of REALTORS®. It may only be used by members of the Association who are members of a REALTOR® association and subscribe to its strict Code of Ethics.

Rather than researching and litigating patent infringement claims, our members wish to channel their resources to serve their core functions to satisfy the real estate needs of the American people – and create jobs in the process. To that end, we ask your committee to enact a package of common sense patent reform measures that includes:

Reform abusive demand letters: Require that patent demand letters include truthful, basic information. Patent trolls send vague and deceptive letters alleging patent infringement to demand unjustified payments from innocent individuals and businesses. Vague demand letters should not be used to bully innocent businesses into paying what amounts to protection money.

Make trolls explain their claims: Require patent owners to explain in detail the basis for the alleged infringement when they file a complaint. Current law does not require that a patent holder explain how a patent is infringed, or even identify the product involved, which makes it nearly impossible someone who has been sued to evaluate the case and decide how to proceed.

Protect innocent customers: Ensure that claims between a patent owner and a manufacturer proceed before claims between the patent owner and the manufacturer's end users. Under current law, anyone can be sued for infringement for simply using a product, system or method. We don't want to change that. Instead, it simply makes sense for cases against end users to be stayed in favor of cases involving the manufacturer.

Make patent litigation more efficient: Make patent litigation more efficient so that weak cases can be dismissed before expensive discovery. Requiring patentees to explain and judges to decide what a patent means at the beginning of a case—the Markman hearing—narrows the case to the actual legal issues in question, drives early resolutions and avoids unnecessary and expensive discovery.

Stop discovery abuses: Require trolls to pay for the discovery they request beyond core documents so that they cannot run up costs just to force a settlement. Since trolls don't actually make or create anything, they have few documents to produce and no incentive to be reasonable in their discovery requests. Making trolls responsible for the costs of their discovery requests that go beyond the core documents needed to decide most patent issues will stop unreasonable demands made for negotiation leverage.

Make abusive trolls pay: Require that a losing party who brings a frivolous case pay the other side's attorney's fees—and make sure the troll can pay. Trolls currently have few barriers to litigation with no significant costs. A stronger presumptive fee-shifting statute and a mechanism to ensure court ordered fee shifting is enforceable will deter nuisance suits.

Provide less expensive alternatives: Maintain and improve administrative alternatives to litigation. Ensuring access to efficient and fair mechanisms to re-examine questionable patents will reduce litigation abuses and strengthen the patent system.

To be clear, validly issued patents warrant full protection to spur American innovation and ensure that U.S. businesses thrive in increasingly competitive marketplaces at home and abroad. Our concerns are with patent trolls who have no interest in producing any goods or services, have not put the sweat equity into the innovations they purport to protect, and simply wish to sue or otherwise coerce payments from real estate and other companies. The reforms we suggest above would not have a chilling effect on inventors who legitimately seek to protect their hard-earned intellectual property. Our recommendations would provide the U.S. real estate sector with the freedom it needs to operate within a rebounding economy.

We look forward to working with you as patent reform legislation moves through your Committee and the full Senate.

Sincerely,

Chris Polychron
2015 President, National Association of REALTORS®

cc: U.S. Senate Committee on the Judiciary



Statement of the
National Retail Federation
National Council of Chain Restaurants
and
Shop.org

submitted to the
U.S. Senate Committee on
Small Business & Entrepreneurship
for its hearing on
"Patent Reform: Protecting Innovation and Entrepreneurship"
held on

March 19, 2015

David French
Senior Vice President,
Government Relations
On behalf of:
National Retail Federation
1101 New York Avenue, N.W., Suite 1200
Washington, D.C. 20005
(202) 783-7971
www.nrf.com

Introduction

Chairman Vitter, Ranking Member Cardin, and members of the Senate Committee on Small Business and Entrepreneurship, on behalf of the National Retail Federation (NRF) and its communities, the National Council of Chain Restaurants and Shop.org, I appreciate the opportunity to submit this written statement to the Committee in connection with its hearing entitled, "Patent Reform: Protecting Innovation and Entrepreneurship," held on March 19, 2015.

NRF is the world's largest retail trade association, representing discount and department stores; home goods and specialty stores; Main Street merchants; grocers; wholesalers; chain restaurants; and Internet retailers from the United States and more than 45 countries. Retail is the nation's largest private sector employer, supporting one in four U.S. jobs and 42 million working Americans. Retail contributes \$2.6 trillion to annual GDP and is a daily barometer for the nation's economy. Retailers create opportunities for life-long careers, strengthen communities, and play a critical role in driving innovation.

Retailers are Significantly Impacted by Abusive Patent Litigation Practices

Members of the National Retail Federation appreciate the attention the Committee is paying to the issue of abusive patent litigation practices and their harmful effect on entrepreneurship and innovation. The overwhelming majority of retailers are small businesses, with ninety-five percent of retail companies operating only one location and more than ninety-eight percent of all retail companies employing fewer than fifty people.¹ Many of these retailers are using capital resources to settle with or fight patent trolls' infringement claims that they would otherwise use to invest in their businesses, engage in their communities, and create jobs.

Retail, at its core, is a highly competitive industry, and many retailers are using cutting-edge innovative technology, especially in online and mobile retailing, to expand and grow their businesses. Patent trolls, who are not investing in technological innovation, providing jobs or giving back to their communities, employ tactics that target retailers and cut at the heart of this growth and ingenuity.

In recent years, hundreds of retailers have contacted NRF about this issue because they have been, or are currently, the target of patent trolls' abusive behavior. The threat typically comes from firms whose business model is buying obscure patents that are about to expire and then either licensing the patents to retailers through the threat of litigation or filing lawsuits in an effort to force a settlement. Often retailers will choose to pay the licensing fee because patent litigation is prohibitively expensive.

Patent trolls employ a strategy that focuses on businesses such as retailers and restaurants because businesses that "use" technology, but don't manufacture it, are more numerous. One manufacturer or vendor may supply a product or service to thousands of retail end users. Thus, there are many more entities from which to demand a royalty. End user retailers are also easy prey because they lack the legal resources and in-house expertise to fight complex patent

¹ Price Waterhouse Coopers, "The Economic Impact of the U.S. Retail Industry," September 2014, <https://nrf.com/sites/default/files/Documents/The%20Economic%20Impact%20of%20the%20US%20Retail%20Industry%20REV.pdf>

infringement claims. Compared to high tech companies, retailers typically operate on thin profit margins. Patent trolls, knowing that retailers lack technical expertise; that retail stores operate on thin margins; and that patent litigation is exorbitantly expensive, will often price a settlement demand (which may still be in the millions) below the cost of litigating, effectively blackmailing a retailer into settlement.

In 2012, patent trolls sued more non-tech Main Street companies than tech companies.² In 2013, the number of patent cases filed continued to grow rapidly and increased by 25%.³ On April 23, 2014, more new patent lawsuits were filed on a single day than on any other day in at least the last 14 years.⁴ And so far in 2015, patent lawsuit filing has surged. Four hundred ninety-nine patent litigation cases were filed in February, marking the third straight month-on-month increase in patent lawsuit filing.⁵ This is an abuse of the system.

The patent troll problem also impacts retailers' relationships with their suppliers and vendors. Retailers now shy away from engaging with small technology providers out of fear of increased litigation brought by patent trolls. Retailers want to meet customer demands and expectations through technology and innovation. The patent trolls have created a chilling effect on retailers' incorporation of technology in their stores and online. The time is now to take back the patent litigation system and return it to its original purpose: fostering innovation and investment that benefits the entire economy.

Legislation is Needed to Protect Retailers from Patent Troll Abuses and Frivolous Lawsuits

Legislation is necessary to curb patent trolls' abusive practices and protect retailers and other end users of technology from frivolous patent infringement lawsuits. In order for patent reform legislation to be effective, it must include several key provisions: to reform abusive demand letters; to make trolls explain their claims; to protect innocent customers; to make patent litigation more efficient; to stop discovery abuses; to make abusive trolls pay; and to provide less expensive alternatives. The incorporation of these key provisions will help ensure that Congress passes strong, common sense patent reform.

Reform Abusive Demand Letters

Patent trolls often assert infringement claims by sending reams of vague, misleading, or deceptive letters, targeting small and medium-sized businesses. Rather than taking the time and expense to appropriately file a proper lawsuit, patent trolls use these so-called "demand letters"

² Colleen Chien, "Patent Trolls by the Numbers," Patently-O, March 14, 2013, <http://www.patentlyo.com/patent/2013/03/chien-patent-trolls.html>

³ Price Waterhouse Coopers, "2014 Patent Litigation Study," July 2014, <http://www.pwc.com/us/en/forensic-services/publications/2014-patent-litigation-study.jhtml>

⁴ Ryan Davis, "Draft Patent Troll Bill Spurs Huge Spike in New Suits," Law360, May 2, 2014, <http://www.law360.com/articles/533893/draft-patent-troll-bill-spurs-huge-spike-in-new-suits>

⁵ Michael Loney, "US Patent Litigation Surges in February, Driven by Software Cases," Managing Intellectual Property, March 10, 2015, <http://www.managingip.com/Article/3434536/US-patent-litigation-surges-in-February-driven-by-software-cases.html>

to coerce these businesses into immediately purchasing expensive licenses of uncertain value or face the threat of protracted and costly patent litigation.

Demand letters, often sent to hundreds of businesses at once, are typically mass-produced form letters that have few or no facts about what alleged infringement has supposedly occurred. Not only do the demand letters fail to include information about the patent that is allegedly being infringed, but they also fail to disclose what the business being sued has done to infringe it. The only information that patent trolls strive to make clear in their demand letters is the threat of a costly lawsuit. While most recipients of patent troll demand letters are likely not infringing patent rights, they will often pay what amounts to extortion to the troll through expensive attorney fees for legal advice, exorbitant litigation costs in court, or hefty settlement sums because it is a practical business decision. It is more cost effective to settle rather than fight a bogus claim. Retailers use not only capital resources to investigate and subsequently fight or settle these claims, but human resources are also diverted to address patent infringement claims. These are resources that retailers would prefer to invest in their businesses, engage in their communities, and create jobs.

Patent trolls target small businesses with demand letters that are usually not related to their primary business. Rather, the troll is often accusing retailers and other Main Street businesses of infringement for using a commercial product such as a printer, a Wi-Fi router, a machine tool, a piece of hardware, or a type of internet technology the business purchases from a commercial vendor to use in its own operations. Patent trolls' claims not only effect e-commerce and mobile retailing, but also the operations of traditional "brick and mortar" retail stores. These types of claims purport to cover the printing of receipts at cash registers, the sale of gift cards, and the connection of any device (such as a computer or printer) to an Ethernet network. Recently, patent trolls have sent demand letters to dozens of Main Street businesses about technology related to transportation, cargo shipment, and package tracking and delivery.

For new legislation to be effective, it must require that demand letters be more specific and transparent. Demand Letters must reveal the actual identity of the party with the financial interest who is making the demand, not just a web of shell companies. Any party with an ultimate financial interest in any recovery, excluding those owning less than ten percent of the voting shares of a publicly traded corporation, must be disclosed. Moreover, the letter must include the patent numbers of the allegedly infringed patents; the model numbers or trade names of accused products or services; the factual basis for the infringement claim; and whether the patent has been the subject of a RAND declaration or commitment to any standard setting organization.

Make Patent Trolls Explain Their Claims

Patent trolls, which produce no products or services themselves and instead only threaten and sue productive businesses that do, often file tens to hundreds of cookie-cutter lawsuits that include no real details. When a patent troll files a lawsuit today against a defendant alleging patent infringement, the patent troll does not have to explain in the lawsuit how their patent is supposedly infringed. Additionally, the patent troll is not required to identify the actual product that is allegedly committing patent infringement or how it infringes on the patent.

When a patent troll files an infringement claim that contains no details against a legitimate business, that business is left completely in the dark as to its actions or products that are allegedly infringing a patent. As a result, businesses cannot prepare an answer to the claim, design a defense strategy, or even figure out which documents need to be collected and produced. Patent trolls exploit this known inequity in the patent litigation system to target retailers, restaurants, and other Main Street businesses, making the discovery process an unfettered and expensive fishing exposition for some unknown and undefined alleged infringement.

Retailers support legislation that requires patent infringement claims include a clear statement containing basic information such as which patent has been infringed and what the defendant has to done to allegedly infringe it. Moreover, patent lawsuits must identify the model number of each accused product or process and each party with any financial interest in any recovery, excluding those owning less than ten percent of the voting shares of a publicly traded corporation. Making patent trolls explain their claims is the only way to level the playing field and defend small American businesses from patent troll's extortive schemes.

Protect Innocent Customers

Traditionally, discussions about patent litigation focused on two parties—a patent holder and the manufacturer of a product that allegedly infringes the patent holder's patent. Under current law a third party, or the "end user," can also be sued for patent infringement simply for using a product in their day-to-day business. Increasingly, patent trolls are targeting end users, including retailers of all sizes, by suing them for patent infringement or demanding extortionate settlement payments.

Patent trolls target end users simply for their use of everyday commercial off-the-shelf products. In the real world, these targets have included retailers that offer their customers free Wi-Fi; restaurants that provide nutrition calculators to their customers; retailers that put a clickable shopping cart icon on their websites; grocers that use aisle scanners to keep track of where food is shelved in their stores; and retailers who link to their website within their mobile app. Patent trolls target businesses on Main Street, ranging from retail to restaurants to hotels to non-profits to realtors to homebuilders, because there are so many more end users than manufacturers.

Most end users operate in non-technical industries and therefore lack technical expertise with the patented subject matter because the patented technology is merely ancillary to their businesses, such as patented products like Wi-Fi routers. It follows that end users also lack familiarity with patent litigation and are not in an advantageous position to judge the merits of a patent troll's threat or lawsuit. All of these factors set end users apart from patentees and product manufacturers and make them particularly attractive victims to patent trolls who are looking for quick settlements. End users are more likely to avoid the costs and risk of litigation by settling claims, even if they are meritless.

For new legislation to be effective, Congress should ensure that when a product manufacturer and end user are both involved in infringement actions involving the same products and patents, the claims between the patent owner and manufacturer will proceed first—and the claims between the patent owner and the manufacturer's end users will be put on hold until the manufacturer case is resolved.

Make Patent Litigation More Efficient

In a patent or patent application, the invention for which the U.S. Patent and Trademark Office has granted permission is clearly defined. Conversely, claims on patents, particularly technology products, are overly broad and not clearly defined. With such a wide scope, patent litigation claims are drawn out and disputed while trying to determine the meaning behind the claim, significantly increasing legal costs.

Overly broad and unclear patent claims that are stretched far beyond the original invention lead to an extraordinarily expensive and inefficient discovery process for the victims of patent trolls. Locating, reviewing, and producing huge quantities of documents costs thousands, if not millions, of dollars. Because trolls have no operating business of their own and thus very few documents, they face no corresponding burden in litigation. Trolls use this to their advantage by attempting to make litigation so expensive that their victims just settle. Because trolls specialize in picking on smaller companies, this is usually a very successful tactic for trolls as their victims lack the resources to fight the claim in court, even when they have a valid case.

One way to help companies fight patent trolls is to delay discovery until the judge rules on the appropriate meaning of key words and phrases in these unclear and poorly defined patent claims, known as “Markman,” or a “claim construction ruling.” In many cases, Markman quickly resolves the dispute by establishing that the defendant does or does not infringe. Delaying discovery until after this point will save many innocent defendants from huge and unnecessary expense.

Requiring that patent trolls explain and that judges decide what a patent means at the outset of the case will allow patent litigation to be more efficient and remove some of the asymmetry from the system. Early Markman rulings will drive early resolutions, preserve scarce judicial resources, and avoid unnecessary and expensive discovery for the parties involved. This way, a patent troll will be forced to withdraw its case if its erroneous definition is rejected by the court. In the event that a patent troll’s definition is accepted by the court, an early Markman decision will allow courts to consider summary judgment motions, promoting settlement. A more efficient patent litigation process will greatly reduce the time and money wasted on discovery and litigation for baseless claims, while still preserving patent holders’ rights to pursue legitimate cases.

Stop Discovery Abuses

Patent litigation is notoriously expensive. A large portion of that expense comes from the costly discovery process when parties must disclose all of the relevant facts and documents to the

other side prior to trial. In patent cases, only a small number of the thousands of produced documents are ever even relevant to liability determinations and most of those are core documents. While defendants are forced to waste significant resources producing non-core documents, patent trolls are largely unaffected by the cost and burden of discovery. Due to the fact that patent trolls, as Non-Practicing Entities (NPEs), do not produce or create goods or services, they therefore possess very few core and non-core documents. NPEs continue to play a growing role in patent litigation. In 2013, NPEs filed 67% of all new patent infringement cases, compared to 28% in 2009.⁶ This inequity in the discovery process enables patent trolls to employ one of their most abusive tactics: seeking expansive discovery to impose significant expenses on defendants as early as possible in the legal process to force quick cash settlements. Small businesses simply cannot afford a long and protracted discovery process.

Courts have the power to limit excessive and abusive discovery requests by allowing only discovery that is proportional to the value of the case. Requiring all parties to pay for the discovery they request beyond core documents in no way interferes with a court's discretion. The court will still set the schedule, decide what motions to follow, and make all decisions regarding which documents should be subject to discovery. Judges can retain discretion to waive the requirement of paying for requested discovery when the interest of justice requires it. A discovery cost-shifting provision does no more than incentivize both parties to be judicious in their discovery requests by only asking for information that is useful, relevant, and necessary.

Retailers believe that the party seeking discovery beyond core documents pays for any associated costs, including reasonable attorney's fees. This will stop unreasonable patent troll demands and make litigation more efficient. The involved parties would still be able to obtain the documents they need, but trolls will not be able to abuse the discovery process to force innocent parties to pay settlements just to avoid crushing legal fees. Altering the incentive of the parties in this way will actually lessen the number of discovery disputes and free judges to focus on more fruitful and substantive aspects of case management and dispute resolution.

Make Abusive Trolls Pay

Patent trolls are often just shell companies with no assets established for the sole purpose of being immune from judgment if faced with sanctions or fee demands by a court. This setup enables patent trolls to often file dozens, and in some cases, hundreds of lawsuits in a single day even though they likely know the cases have little or no merit. Even though this behavior wastes the court's time and costs the businesses they sue thousands in legal fees, the patent trolls do not care because there is no penalty for this behavior under current law.

Trolls leverage the significant expense of patent litigation to force defendants to settle to avoid the millions of dollars required to defend a suit. Even successfully defending against a meritless patent suit can cost over \$1 million in legal fees for a small business and an average of over \$6 million for a larger company. Under current law, patent trolls face no similar costs or downside risk. Given how costly it is to go to court, many defendants, even those who know they have not committed any patent infringement, therefore simply choose to settle the case and

⁶ Price Waterhouse Coopers, "2014 Patent Litigation Study," July 2014, <http://www.pwc.com/us/en/forensic-services/publications/2014-patent-litigation-study.jhtml>

pay the patent troll off. It is the inequities in current law that force legitimate businesses to choose the lesser of two evils and pay the trolls that make the patent troll business model profitable and attractive. Winning parties in truly frivolous patent cases should be awarded reasonable fees and expenses by the losing party. This solution would make the patent troll business model less attractive and less profitable.

Provide Less Expensive Alternatives

Patents have been an important part of the American economy and legal system since the country was founded. The framers of the Constitution thought it so important to protect the rights of inventors that they gave Congress the power to create the patent system in order “to promote the progress of science and useful arts.” The system has served us well, and set the stage for the innovation that has made our country successful and innovative for more than two centuries.

Unfortunately, in the past decades individuals and companies have found ways to exploit the patent system, leeching money from it without contributing any innovation or invention whatsoever. Patent trolls acquire vague or overly broad patents not to invent or sell products but to sue and shake down American job creators. It would be prohibitively expensive and practically impossible for a productive company to determine whether it may be infringing every one of the one million active U.S. patents. As a result, companies are hit with lawsuits covering the fundamental backbone technologies that enable the e-commerce we all take for granted—such as transacting business over the Internet, displaying product images, or the icons we click on web pages.

The granting of poor quality patents has fueled patent trolls and has led to numerous lawsuits and demands for royalty payments. Patent trolls have few assets, other than the patents themselves, sustaining themselves through litigation and sucking millions of dollars out of the pockets of consumers and the businesses they target each year.

Congress needs to protect and improve existing administrative alternatives at the U.S. Patent and Trademark Office (PTO) as a less expensive alternative to litigation for businesses to combat patent trolls. Any reforms made by Congress to the patent litigation system must, minimally, preserve, if not strengthen, the PTO’s existing procedures for preventing litigation abuses.

Conclusion

The exorbitant costs associated with seeing a court case through to final adjudication are startling for retailers, especially small businesses. We have heard from our members that they spend as much as one million dollars or more annually on patent troll-related expenses and settlement agreements. These expenditures and the employee hours diverted to fighting patent trolls are precious capital resources that retailers would rather reinvest in their businesses. Because many retailers do not have these types of resources to redirect to fight patent trolls, they often will settle the claim when they receive their first demand letter to make the problem go away.

Addressing this abusive and growing patent litigation problem with common sense reform will help release retailers from the controlling grip on their industry that patent trolls currently enjoy. Because the retail industry contributes \$2.6 trillion to our nation's annual GDP, removing or even loosening this grip on retailers will allow innovation and growth to flourish, and undoubtedly benefit the overall U.S. economy.

Multi-faceted patent litigation reform needs to include provisions that reform abusive demand letters; make trolls explain their claims; protect innocent customers; make patent litigation more efficient; stop discovery abuses; make abusive trolls pay; and provide less expensive alternatives to costly litigation. Effective legislation is about stopping the patent trolls' lucrative business model of asserting meritless patents and getting shakedown settlements. Only Congress can pass reform needed to put them out of business for good.

We appreciate your leadership, and NRF looks forward to working with you to address this growing and costly problem.



FOR IMMEDIATE RELEASE
March 3, 2015

Contact: Ben Veghte
Phone: 202-864-5923

NVCA Announces Support for STRONG Patents Act of 2015

WASHINGTON, DC – The National Venture Capital Association (NVCA) today announced its support for the STRONG Patents Act of 2015 after the legislation was introduced in the Senate by Senators Chris Coons (D-DE), Dick Durbin (D-IL) and Mazie Hirono (D-HI).

"The right to protect one's ideas is a bedrock principle of our country and a vital component to the health and well-being of the entrepreneurial ecosystem. I commend Senator Coons and his colleagues for introducing legislation that will bring appropriate reforms to our patent system," said Bobby Franklin, President & CEO of NVCA. "The venture community is a strong advocate for patent reform and believes steps should be taken to curb abusive behavior while also maintaining a robust patent protection system so that small startup entrepreneurs can defend themselves and their patent rights. While we look forward to working with lawmakers to help improve the legislation as it makes its way through Congress, we believe this is a good start and are supportive of the STRONG Patents Act."

###

Venture capitalists are committed to funding America's most innovative entrepreneurs, working closely with them to transform breakthrough ideas into emerging growth companies that drive U.S. job creation and economic growth. As the voice of the U.S. venture capital community, the National Venture Capital Association empowers its members and the entrepreneurs they fund by advocating for policies that encourage innovation and reward long-term investment. As the venture community's preeminent trade association, the NVCA serves as the definitive resource for venture capital data and unites its nearly 400 members through a full range of professional services. For more information about the NVCA, please visit www.nvca.org.

STATEMENT



FOR IMMEDIATE RELEASE

Contact: Tina Stow
(202) 835-3581
tstow@phrma.org

PhRMA Statement on Introduction of STRONG Patents Act of 2015

Washington, D.C. (March 3, 2015) — Pharmaceutical Research and Manufacturers of America (PhRMA) senior vice president, Chuck Clapton, provided the following statement in response to introduction of the Support Technology and Research for Our Nation's Growth Patents Act of 2015 ("STRONG Patents Act"):

"PhRMA commends Senator Coons for his recognition of the critical role that patents play in driving innovation, including in the biopharmaceutical industry, by enabling our companies to invest in the research and development needed to discover new treatments and cures. We appreciate Senator Coons' willingness to draft legislation that seeks both to ensure fairness in post-grant proceedings at the Patent and Trademark Office, and to minimize abusive patent litigation where it exists. We look forward to working with Senator Coons and other members of the Senate Judiciary Committee on legislation to address abusive practices in patent enforcement without inadvertently weakening the ability of legitimate patent holders to protect and enforce legitimate patent rights."

###

About PhRMA

The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country's leading innovative biopharmaceutical research companies, which are devoted to discovering and developing medicines that enable patients to live longer, healthier, and more productive lives. Since 2000, PhRMA member companies have invested more than \$550 billion in the search for new treatments and cures, including an estimated \$51.1 billion in 2013 alone.

Connect with PhRMA

For information on how innovative medicines save lives, please visit:

Startup Investors Nationwide Support Broad Patent Reform

17 March 2015

Dear Congress:

Each year, we invest hundreds of millions of dollars in software and information technology businesses and other emerging technologies. Together with other investors, we commit more than \$1 billion annually in angel and venture capital that ensures continuing growth of young, high-tech companies employing 1.4 million people. Collectively, we have invested in companies such as Netflix, Twitter, Facebook, Dropbox, Palantir, Kickstarter, and countless other technologies that power American businesses everywhere.

This investment has spurred a startup ecosystem that has created world-changing technologies, and is responsible for all net new job growth in the United States. Despite this, we find our portfolio companies facing a dangerous patent troll problem. When a troll sues, or even threatens, a small startup, the results can be disastrous. Many of us have seen young companies fail in the face of such threats. In fact, a recent survey found that 70% of VCs have portfolio companies that have received patent demands, the majority of which come from so-called patent trolls. This is not sustainable.

To promote continuing growth in our startup economy, we need comprehensive patent reform legislation that will provide small companies the tools to fight back against patent trolls and will curb the worst behavior of the most egregious actors. Specifically, legislation should:

- Increase transparency by requiring patent trolls to specify, in complaints and demand letters, which patent and what claims are infringed, specifically how the offending product or technology infringes, and who is the real owner of the patent(s) at issue.
- Limit the scope of expensive litigation discovery, which pushes companies to pay unjustified settlements priced cheaper than defending against spurious claims.
- Allow courts to use their discretion to require patent trolls to pay legal fees and other costs incurred by prevailing defendants.
- Protect end users of technology (e.g., wi-fi, printers and scanners, and APIs) from being liable for infringements by technology providers.

Many of our companies own patents, and we believe in a robust patent system. We do not want to undermine legitimate enforcement of properly-issued patents by responsible patent owners. Moreover, we are encouraged by recent changes to the system. However, tens of thousands of patents are still issued every year in the high-tech space alone, many of which will end up being exploited by trolls during their 20 years of life. Litigation by non-practice entities has increased tenfold in the last decade and only comprehensive legislation will effectively reverse that trend.

Our Constitution favored a patent system to incentivize innovation and benefit all Americans. Unfortunately that system has been hijacked by some intent on exploiting Patent Office weakness, and all too frequently it now hinders innovation and chills investment, harming the new companies it was designed to foster and imposing a patent troll tax on new technologies. We urge Congress to immediately pass comprehensive patent reform legislation that will restore balance to the system.

The undersigned:

Andrew Ackerman
Managing Director, DreamIt NY

David Lee
General Partner, SV Angel

Steve Anderson
Founder, Baseline Ventures

Greg Lee
Venture Capitalist

Michael Arrington
Founder, TechCrunch & Partner, CrunchFund

John Lee
Partner, SparkLabs Global Ventures

Jack Balletto
Founder, Sunrise Capital

Peter Lee
Managing Partner, Baroda Ventures

Anamitra Banerji
Partner, Foundation Capital

Mark Leslie
Managing Director, Leslie Ventures

Luke Beatty
Angel Investor

John Lilly
Partner, Greylock Partners

Thatcher Bell
Managing Partner, CoVenture

Jessica Livingston
Co-Founder, Y Combinator

Morgan Beller
Partner, Andreessen Horowitz

Joe Lonsdale
Co-Founder, Palantir

Greg Bettinelli
Partner, Upfront Ventures

Trevor Loy
Flywheel Ventures

Trevor Blackwell
Co-Founder and Partner, Y Combinator

Ralph Mack
CEO, Mack Capital

Zachary Bogue
Managing Partner, Data Collective

John Malloy
General Partner and Co-Founder,
Blue Run Ventures

Brady Bohrmann
General Partner, Avalon Ventures

Chris Marks
High Country Venture

David Bradbury
Vermont Center for Emerging Technologies

Jim Marshall
Managing Director, SVB

Bill Brady
Vice Chairman, Credit Suisse

Tom Mawhinney
General Partner, Icon Ventures

Mike Brown Jr.
General Partner, Bowery Capital

Matt McCall
Pritzker Venture Capital Group

John Burbank
Founder, Passport Capital

Jay McCarthy
Partner, SparkLabs Global Ventures

Brad Burnham Partner, Union Square Ventures	Jim McKelvey Cultivation Capital
John Buttrick Partner, Union Square Ventures	Andrew McLaughlin BetaWorks and Digg
Kellan Carter Associate, Ignition Partners	Joe Medved Partner, SoftBank Capital
Steve Case Chairman and CEO, Revolution	Frank Meehan Partner, SparkLabs Global Ventures
Peter Chang Partner, SparkLabs Global Ventures	Josh Mendelsohn Hattery
Lon Chow General Partner, Apex Venture Partners	Jason Mendelson Co-Founder and Managing Director, Foundry Group
Dan Ciporin General Partner, Canaan Partners	Matt Miller Managing Director, Walden Venture Capital
Jeff Clavier SoftTechVC	Jeb Miller General Partner, Icon Ventures
Andrew Cleland Managing Director, Comcast Ventures	Zachary Miller [A] Capital
Jeremy Conrad Founding Partner, Lemnos Labs	Bernard Moon Partner, SparkLabs Global Ventures
Ron Conway Founder and Managing Partner, SV Angel	Howard Morgan Partner, First Round Capital
Topher Conway General Partner, SV Angel	Dave Morin Slow Ventures
Ronny Conway [A] Capital	Bubba Murarka Partner, DFJ Venture
Jordan Cooper Founder, Wildcard & Partner, Lerer Hippeau Ventures	Michael Neril Venture Capitalist
Rafael Corrales Venture Capitalist	Kevin O'Connor Startup Founder & CEO/Angel Investor
Mark Cranney Partner, Andreessen Horowitz	Charlie O'Donnell Brooklyn Bridge Ventures

Mark Cuban Investor in over 70 startups	Matt Ocko Managing Partner, Data Collective
Rob DeMillo Partner, SparkLabs Global Ventures	Alexis Ohanian Co-Founder & Executive Chair of reddit
Satish Dharmaraj Partner, Redpoint Ventures	Eric Paley Managing Partner, Founder Collective
Chris Dixon General Partner, Andreessen Horowitz	Stephanie Palmeri Principal, SoftTech VC
Peter Esperago Cultivation Capital	Brian Pokorny General Partner, SV Angel
Brad Feld Co-Founder and Managing Director, Foundry Group	Shauntel Poulson Principal, NewSchools Venture Fund
Josh Felser Venture Capitalist	Megan Quinn Partner, Kleiner Perkins Caufield & Byers
Peter Fenton General Partner, Benchmark	Jeff Richards Managing Partner, GGV Capital
Chris Fralic Partner, First Round Capital	James D. Robinson Managing Partner, RRE Ventures
Ross Fubini Partner, Canaan Partners	Brett Rochkind Managing Director, General Atlantic
Brian Garrett Co-Founder and Operating Partner, Crosscut Ventures	Dan Rosen Partner, Commerce Ventures
Will Gaybrick General Partner, Thrive Capital	Gordon Rubenstein Managing Partner, Raine Ventures
Nicole Glaros Partner, Techstars Ventures	Kevin Ryan Alleycorp
Randy Glein Managing Director, DFJ Growth	Chris Sacca Lowercase Capital
David Gold Access Venture Partners	David Samuel Co-Founder, Freestyle Capital
Kent Goldman Founder, Upside Partnership	Dave Shen West Coast Director, LaunchCapital

Greg Gottesman Madrona Venture Group	Todd Steele Managing Partner, Simon Equity Partners
Matthew Greenfield Managing Partner, Rethink Education	Kevin Swan Partner, iNovia Capital
Greg Gretsch Managing Director, Sigma West	Harj Taggar Y Combinator
Nick Grossman Investor, Union Square Ventures	Devin Talbott Managing Partner and Co-Founder, Enlightenment Capital
Bill Gurley Benchmark Capital	Garry Tan Partner, Y Combinator
Dave Hanna Hanna Ventures	Hemant Taneja Managing Director, General Catalyst Partners
David Hehman Co-Founder, Spartina	Brett Topche MentorTech Ventures
Rick Heitzmann Founder and Managing Director, FirstMark Capital	Jorge Torres Silas Capital
Eric Hippeau Managing Director, Lerer Hippeau Ventures	Tomasz Tunguz Partner, Redpoint Ventures
David Hirsch Co-Founder and General Partner, Metamorphic Ventures LLC	John Underwood Managing Director, Goldman, Sachs, & Co.
Kirk Holland Access Venture Partners	Roland Van der Meer Managing Partner, Fuse Capital
Jim Hornthal Chairman, M34 Capital	Hunter Walk Homebrew
Joe Horowitz Managing General Partner, Icon Ventures	Maynard Webb Founder, Webb Investment Network
Net Jacobsson Partner, SparkLabs Global Ventures	David E. Weekly drone.vc
Len Jordan Madrona Venture Group	Paul Weinstein Founding General Partner, Azure Capital Partners

Sunny Kantha
Growth Equity/VC Investor

Andy Weissman
Partner, Union Square Ventures

James Kim
Partner, SparkLabs Global Ventures

Albert Wenger
Partner, Union Square Ventures

Alan Knitowski
Angel Investor

Maurice Werdegar
Partner and CEO,
Western Technology Investment

Jordan Kong
Investor, Institutional Venture Partners

Steve Westly
Managing Partner, The Westly Group

Josh Kopelman
Partner, First Round

Fred Wilson
Partner, Union Square Ventures

Mo Koyfman
General Partner, Spark Capital

Qasar Younis
Partner, Y Combinator

Paul La Londe
Investor, SV Angel

Brad Zions
Structure Partners

Senator COONS. Let me, in the time I have left, ask a question or two.

Ms. KING, your testimony goes to the heart of my interest and concerns about this debate, and I am appreciative of your support for the STRONG Patents Act.

You explained that in raising \$64 million just to support your R&D pipeline focused on patients with sickle cell anemia, it was possible only because of the strength of your patent portfolio.

And you note every biotech exec has stories to tell about very promising compounds that ultimately did not work out and the risks taken.

And your comment: The injection of additional systemic uncertainty by making the enforceability of patents more uncertain negatively affects which new cures and treatments may be available a decade from now.

So let me just summarize that in plain terms. If we make it harder for a small company like yours to enforce your patent rights, they will suffer from less external investment and narrow the scope of diseases we could otherwise hope to cure in the next decades.

Ms. KING. Absolutely.

Senator COONS. Is that right?

Ms. KING. Yeah, that is absolutely correct.

And, as I said at the end of my testimony, we have so much work still to do in terms of diseases that need to be treated that we really have to thoughtfully continue to incentivize investment in this sector.

And, the ability to hold and to defend and to really depend upon patents is critical to our ability to raise the amounts of money that we need to raise over the long periods of time for which we have to get the investment. So it is absolutely critical to us.

Senator COONS. And Mr. Molino just commented that it is too early for us to try and address abuses in the Inter Partes Review or the post-grant review processes.

Isn't that abuse actually directly affecting the ability of companies like yours to attract and sustain investment?

Ms. KING. Yeah. Well, the example you gave is a biotech company, and the difference we have in biotech versus some other industries is that our products have very few critical patents associated with them. So, unlike a cell phone that may have hundreds of patents, you know, we might have a drug that has one or two critical patents, and that is why it is so open to the possibility of abuse if someone files an IPR against us. So these are extremely problematic, currently.

Senator COONS. Well, my core view is that how you see patents and their importance, in some ways, depends on the sector you are in, whether you are in software or in bio or pharmaceuticals or materials.

And we should first do no harm. We should not address—we should not adopt a legislative solution that is so over-broad that it will kill the ability of a small inventor to defend their patent or that will impart other agendas into trying to fix the real patent troll issue in a way that defeats the ability of patent owners to exercise their right.

I see I am out of time.

Thank you very much, Mr. Chairman, for bringing this hearing forward today.

Chairman VITTER. Thank you, Senator.

Senator Cantwell is next.

Senator CANTWELL. Thank you, Mr. Chair.

You know, my colleagues comments provoke me to comment on the last—the bill that we passed. I think we do need to take inventory of where we are and what it has done to impact small inventors.

But I think I want to turn—keep going with you, Ms. King, on the issue of the uniqueness of the biotech industry and on the patents and how you think this litigation reform proposal will impact the industry uniquely.

And I also see where the House already did like a carve-out on some generic drugs and so if you would comment on that as well.

Ms. KING. As far as the challenges that we face, I mean, because our products, as I said, are often covered by just a very few number of patents, if any one of those is challenged or invalidated, it has a great impact on our ability to raise money and on the value of the—

Senator CANTWELL. And I think what people do not understand is juxtaposed to Mr. Molino's group, who can build and ship a product, or show you a beta, in 6 months, you sometimes have to work for 18 for 20 years before you can even—and you have to get capital during that whole process.

Ms. KING. Yeah, exactly. And if we are successful at our company, it is going to take us about 15 years and tens of millions of dollars to get our first drug on the market.

And so we have successfully raised a lot of money so far, but we are constantly continuing to face that issue.

And so, if our patents were to be invalidated, that would completely undermine our ability to raise the funds to go through that long period of time that is required for our development.

Senator CANTWELL. Okay. And any comments about what the House is looking at—various legislation where they would do carve-outs?

Ms. KING. Actually, I am not familiar with the specific carve-out.

Senator CANTWELL. Okay. We will get you information on that.

Mr. Molino, what about the software innovations and recent developments? Do they raise concerns for you?

Mr. MOLINO. Yes. Thank you very much, Senator.

The Supreme Court recently ruled on a case involving software patentability called Alice v. CLS Bank. One good thing about that decision is it reaffirmed the patentability of software, which some have questioned. However, the Supreme Court did not provide a ton of guidance for lower courts on how they should analyze these types of cases.

So our organization is very active in working with both the PTO to ensure that software patents remain available and also through our amicus filings in court to try to give lower courts and the PTO sufficient guidance on how to analyze these cases.

Thank you.

Senator CANTWELL. Well, I think, Mr. Chairman, I am glad you are having this hearing and certainly support efforts to make sure that small businesses and their innovations are protected.

So I think looking at what we did—and, again, to my colleague's point, it would have been great if we did major reform and protected the dollars in the patent office, but we did not accomplish that, and then moving first to—I am sorry. Moving to the European model I also do not believe is helping us.

But I think let's see what the patent office is coming up with in details, and let's look at it.

Thank you.

Chairman VITTER. Great. Thank you.

Next is Senator Ernst.

Senator ERNST. Thank you, Mr. Chair.

And I appreciate the witnesses' testimony today. So thank you for being here and raising such an important issue on a wide range of interests, especially to Iowa, from small businesses and individual inventors to our universities as well. And so we look at larger agricultural and biotech companies. Many of them are interested, very interested, in this topic.

So I know that Senators Leahy and Lee have been pursuing legislation to prevent misleading demand letters, specifically making it an unfair trade practice.

And do you believe that this should be part of an approach within patent reform? Could any of you answer that, please, and your thoughts?

Mr. SCHMIDT. Well, unfortunately, you missed my comment on H.R. 9, which to a large extent is very similar to what Leahy and Lee were pushing in the Senate last year. Our concerns are numerous about this.

First thing, I want to put some historical perspective on this whole patent issue because we went through this in the 1990s with General Motors, and it is always about large, dominant players weakening patents because market-dominant companies do not need patents. And all patents do is keep them from keeping their market share because it is these new patents that are going to come and eat their lunch and eventually put them out of business.

So it was the AT&Ts of the world that were supporting this previously, and you know, now they are gone. And GM is, you know, a new GM.

And so we are going to see that with these new market-dominant companies if we can keep a strong patent system, and so this is very important to be able to allow our companies to have creative destruction with new patents.

Senator ERNST. Thank you.

Any other thoughts from the panel?

Yes, sir.

Mr. MOLINO. So, yeah, thank you very much for the question.

From our members' perspective, we are in favor of figuring out how to end the widespread sending of bad faith demand letters. We think it is a real problem. We think it preys on those that are the least educated on this with regard to the patent system, and it should be stopped.

At the same time, we also note that a lot of states are implementing their own laws, and for national companies it is very challenging to try to navigate various state laws that can be very specific.

So, from our perspective, not only do we want to end the widespread sending of bad faith demand letters, but we would like to have a national standard for that as well.

Senator ERNST. Okay. Any other thoughts?

Yes, sir.

Mr. WINWOOD. Well, Senator, I would just say that last year Senator Leahy introduced legislation in the last Congress, 1720, which we were quite supportive of. It was withdrawn later in the session, but that approach was one that was favored pretty well by all of the higher education association groups last year.

Senator ERNST. Very good. Thank you.

And, following up with that, as we talk about our universities, how do we balance the interests of the universities, smaller companies, larger technology and biotech?

Many patent holders have the legitimate rights and claims that need to be available to them, but we also have a litany of frivolous law suits, legal tactics that are causing significant challenges to small businesses and inventors. So there has to be a balance that we can find.

And, to all of you, if you were a legislator for a day, what would be your answer?

Ms. KING. I want to, first of all, acknowledge the complexity that you reference because it is absolutely correct that this is challenging to find a balanced perspective.

I think that the best thing that we can do now is to go after what we know are examples of abuse because a lot of the system actually does work pretty well in terms of getting patents. You know, we can be proud of what we have been able to accomplish in this country with the system that we have.

However, I think we can improve it, and I think we can certainly address abuses.

The bill that Senator Coons and others have introduced, I think, does that quite well. So I would support that STRONG Act. I think that is a great step in the right direction.

Mr. MOLINO. So we are also very interested in trying to prevent abuses—abuses that we know have been going on in the litigation system for well over a decade.

So the things that we would be most interested in are just making sure:

That when somebody actually files a case they clearly disclose why they are filing the case and what their claims are;

That we do not start really expensive discovery until we figure out what the scope of the case is going to be, and a judge issues an order in patent cases unlike any other case that actually does that, and do not start discovery until then;

That we do implement a fee-shifting provision that only shifts fees if a party brings an objectionably unreasonable claim.

Again, both sides of the—both defendants and plaintiffs would be subject to this standard.

And I think those are the main issues that we are concerned about.

Senator ERNST. Okay. Well, I—yes, sir, did you have something? [Pause.]

Well, I thank the witnesses very much.

Thank you, Mr. Chair.

Chairman VITTER. Great. Thank you.

And I think Senator Cardin has some final questions or thoughts.

Senator CARDIN. Well, thank you, Mr. Chairman.

I, again, want to thank the witnesses not only for their testimony but their candid response.

As I said in the beginning of the hearing, we are very concerned to make sure we protect intellectual property. Whether it is a university so that we can get tech transfer to create jobs, whether it is a large multinational company that needs to be protected in the United States on global competition, we are concerned.

The focus of this Committee is on small business, and that is why I think it was particularly important to hear from a small pharmaceutical company and a small high-tech company that is dealing with adding to the technology and value of larger products as to how the system is working.

What impressed me is that it seems to me that we can do a better job—and I am glad that Senator Coons is still here—in dealing with areas where there should not be much controversy.

There should not be much controversy in requiring standing for someone to challenge.

There should not be much controversy to go after those who try to manipulate the value of stock by what they do in order to make a profit on that. We should be able to correct that.

We should be able to have more transparency in the process, that you know who is challenging.

And, we should be altogether against abusive practices, whether it is challenging for the purposes of trying to get a nuisance settlement on your legitimacy to use a patent or to review a patent that you currently have.

I think in those cases we should be able to come together.

And I thank Senator Coons and Senator Hirono for their leadership, and Senator Durbin.

I am not endorsing a bill today; do not get me wrong.

But I do think it is important that we have to take action to deal with those types of abuses in a way that we can find common agreement among the different stakeholders because there is no disagreement that we want to end abusive practices and we want to protect legitimate patent rights. So let's figure out where we can make some progress.

And, lastly, I think there is also agreement that we have to make sure the resources are there in the patent office to give timely considerations to all these issues because it does delay the certainty that is necessary for Ms. King's contemporaries and colleagues to be able to get the type of financing they need in order to do their very, very creative work.

I applaud the creative people that are here for what you have done, and I know that there are people in Maryland and through-

out our country who are going to benefit from your creativity. And our economy certain benefits from a strong patent system that protects that type of intellectual property.

Chairman VITTER. Great. I am going to move to Senator Coons.

But before I do, I want to just say—briefly, because I am going to have to excuse myself and I am going to give the gavel to Senator Cardin if that is all right—thanks to all of our witnesses. You are all great witnesses.

This is actually the first hearing in D.C. of the Senate Committee on Small Business and Entrepreneurship this Congress. I think this was an extremely appropriate topic because, quite frankly, there has been a lot of discussion and some activity elsewhere that I do not think appropriately focuses on the role and the interest of small business entrepreneurs, including our universities. So I am very glad this was a robust discussion and our first hearing.

And certainly, I am committed to continuing to recognize that patents are a fundamental property right that our founders recognized and valued, that is in the Constitution—we need to protect that—and that our U.S. patent system has been strong and unique in a good way, and we should not rush to match other parts of the world necessarily that have very different systems, I think, and are not as positive as ours, and that certainly small businesses and innovators and entrepreneurs are absolutely at the center of our economy and prospects for better economic growth.

So, thank you.

With that, Senator Coons.

Senator COONS. Thank you, Chairman.

That was a beautiful, thorough, broad summary. I could ask other questions, but frankly, I think we should let that be the last word.

Thank you for calling this great hearing.

Chairman VITTER. You are just concerned about my handing the gavel to Senator Cardin, obviously.

[Laughter.]

Well, with that, thanks to all of our witnesses, and the hearing is adjourned.

[Whereupon, at 11:29 a.m., the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED



April 28, 2015

Chairman David Vitter
 Committee on Small Business & Entrepreneurship
 United States Senate
 Washington, DC 20510-6350

Subject: Response to SBE Questions

References: 1. Vitter to Schmidt letter dated April 14, 2015
 2. Senate SBE Committee Hearing of March 19, 2015

Dear Chairman Vitter:

I thank you for allowing me to testify, and for this opportunity to provide further information on my testimony. Here are the Small Business Technology Council's responses to your questions.

1. Mr. Schmidt, Some small inventors have raised the issue of the "integrity loophole" caused by a court decision denying judicial relief to patent holders whose patents have been subject to fraudulent or sham petitions for reexamination at the PTO. Do you agree this is a problem and would you support Congress restoring a judicial remedy?

Yes. This is every bit as important as solving the "troll problem." For the last several years, Congress and the courts have chosen to focus on weakening patents to try and eliminate "trolls." However, as the last 220+ years have proven, having a strong patent system has allowed America to develop an economy like no other. Recently, a number of court decisions and the America Invents Act have weakened patents, and our economy is suffering because of them. The purpose of any pending patent legislation should be to strengthen patents, not weaken them. The "integrity loophole" is one such example of weakened patents.

The court decision which opened up the problem is *Lockwood v. Sheppard, Mullin, Richter & Hampton, LLP*, 2009 WL 9419499 (C.D. Cal. Nov. 24, 2009) (holding plaintiff's state law claims premised on fraudulent and "sham" reexamination proceedings were preempted by federal law), *aff'd*, 403 Fed. App'x. 508 (Fed. Cir. 2010), *reh'g and reh'g en banc denied* (Fed. Cir. 2011), *cert. denied*, 132 S. Ct. 97 (2011). The court ruled that if a patent owner is victimized by fraud or deliberate abuse of post grant reviews they no longer had the right to sue for damages, but must go to the PTO for redress. However, the PTO cannot award damages when it finds petitions to have been filed fraudulently.

In his response to former Sen. Bayh after the ruling, PTO Director David Kappos confirmed that the PTO has no authority to award compensation to patent owners who are harmed by such actions. Subsequently, the PTO has made it clear that they do not seek such authority, which is the province of the courts. Thus, we have an "integrity loophole" allowing unscrupulous parties from around the world to willfully and knowingly violate their oath to the PTO that their filings are being made in good faith, knowing that they cannot be held accountable for the severe harm they inflict. Even if the patent is eventually upheld, there is a cloud over the patent during the review, which can prevent the owner from securing venture funding or licensing the invention. Further, defending the patent takes about 2 years and costs



about \$300,000 (not counting company time) which is time and money that small businesses--particularly start-ups--don't have. A 2012 empirical study published in the *Columbia Science and Technology Law Review*¹ found that **one in four respondent practitioners reported some form of fraud or misconduct on the part of those challenging patents in reexamination.**

We are now seeing a new variation of abuse of post grant reviews as hedge funds are publicizing their challenges in the media to important drug patents to profit when they short the company's stock. Rachel King, a witness² at the referenced Senate Small Business hearing talked about this growing problem. For affected companies, there is no way they can ever recover the losses (which were about \$150M to Acorda). Specifically we agree with others who suggest that liability attaches whenever the filer of an IPR (or CBM, PGR, or reexam) **knowingly & willfully acts in a manner contrary to 37 C.F.R. 11.18 -- the PTO's own long-standing disciplinary rule, modeled on federal Rule 11.** Proposed language would remedy the hedge fund abuse of IPR's by giving the targeted companies a federal cause of action for damages. Among other things, *this PTO rule requires that a petition for IPR (like any other paper filed before the PTO) "is not being presented for any improper purpose, such as to harass someone or to cause unnecessary delay or needless increase in the cost of any proceeding before the Office."*

Obviously, filing an IPR petition to drive down a company's stock price is such an "improper purpose" and would open hedge funds to liability under our proposed language. At least one prominent post-grant practitioner has agreed that the hedge fund abuse of IPR's is plainly an "improper use of the proceeding" but, as he points out [here](#),³ the most the PTO is currently empowered to do is award attorney's fees -- without the proposed remedy, the targeted companies will not be able to recover the damage done to their stock price and to their business as a result.

Former Federal Circuit Chief Judge Paul Michel has expressed his concerns⁴ on the issue. It has been proposed by The Alliance to Prevent Fraudulent Attacks on Patents⁵ that by restoring the patent owner's historic right to sue for damages the loophole will be closed. The SBTC, and its parent organization, the NSBA, were among the first to endorse these efforts. The importance of closing the integrity loophole has previously been mentioned in NSBA's "Patent Reform Newsletter."⁶

Witness David Winwood from LSU said in reply to Sen. Vitter's question:

While there may be areas of disagreement regarding patent reform, one area where everyone should agree is that we cannot tolerate fraud or deliberate abuse of patent reexaminations or post grant reviews. Patent applicants are held to a standard of honesty in dealing with the PTO or they risk losing their patent rights, so third-party requesters should be held to a similar standard. Currently the patent owner must be truthful, but the third-party requester can commit fraud with no financial penalty due to a recent court decision. So the door is wide open for unscrupulous parties around the world to abuse our system knowing that it will take the patent owner years of effort and hundreds of thousands of dollars to defend their patent in the Patent and Trademark Office. This is time and money that small companies simply cannot afford and such challenges can deny them access to desperately needed venture funding or entry into the marketplace. We should restore the traditional right of patent owners to sue for damages in such cases. By restoring this historic right we will effectively close this integrity loophole from being used against the small companies which lead in the creation of U.S. products, jobs and even new industries.



2. In your testimony, you indicated that many small businesses do not support legislation such as the current H.R. 9, and other similar former Senate bills. Please discuss the details of why you cannot support that legislation. Specifically, why are the following provisions problematic for small business and independent inventors: Fee Shifting, Bonding, Joinder, Covered Business Methods (CBM), Elimination of Post Grant Review Estoppel, Disclosure of All Plaintiff Interested Parties, Enhanced Pleadings and Limiting Discovery, Customer Stays, and Patent Term Adjustment (PTA)?

In addition to SBTC's prior documents opposing H.R. 9,⁷ below are the comments addressing the listed questions about H.R. 9 (and some other past Senate and House bills). The SBA Office of Advocacy has also expressed similar concerns.⁸

- **Loser Pays:** American laws do not apply "loser pays" provisions to consumers, corporations, protected groups, or any other class of private litigants. This provision singles out litigants with limited resources; it would create substantial chilling effects on small entities' (patentees or alleged infringers) ability to enforce their legal rights. The prohibitive risks of loss would prevent patentees with legitimate claims from asserting their patents and would likewise force small business innovators wrongly accused of patent infringement to settle without having their day in court. Why should patent litigants with limited means be singled out as the only class that should bear this burden? Small business inventors will be deterred from exercising their rights, resulting in loss of jobs. More perniciously, the smaller firms will be further deterred from investing to develop such rights, as they will need a \$5-10 million legal war-chest before they try to enforce any patents. The large multi-national companies know that smaller companies cannot afford to pay the larger business's legal costs if they lose, and so may act assuming small businesses will not take the chance. We have already seen large companies ignoring small companies' patents. Officers of some of America's largest corporations tell small companies they don't care about small company patents, even though they may be infringing. Thus, "loser pays" will further allow large "Patent Ogres" to infringe with impunity.
- **Bonding or "Pay to Play":** This provision has been part of a number of House and Senate bills in the past. (E.g.: last Congresses S. 1612 by Sen. Hatch.⁹) They required the inventor plaintiff to post a bond or certify that they can pay the alleged infringers legal fees should they not prevail. This puts enforcing a patent beyond the financial capability of all but the largest and wealthiest of small businesses. Pay to Play would result in almost all of the over 5,000 active SBIR companies being unable to enforce their patents. This is probably the most heinous provision of proposed patent bills. The problem is that the patent(s) is the major asset of most small companies. If it is declared invalid, the value of the company plummets. So even if the entrepreneur wants to pledge his entire company for the bond, it will likely be insufficient. Since the entrepreneur has likely already pledged his house for a credit line, this will mean that posting a bond will be impossible for almost all small companies. Thus, Congress will be telling most Americans, they are "just too poor to invent or enforce their patents."
- **Fee Shifting "Joinder":** makes investors and others personally liable for the legal fees of the alleged infringer if the small business plaintiff does not prevail (possibly on each and







PTA law prior to HR 9 and this retroactive effect would be unfair and may present a constitutional problem. Thus, it appears we have somewhat of an *ex post facto* law applying to prior applications that are pending. The problem that the SBTC sees with this change, however, is less about PTA credits and more about its effect of eviscerating the effectiveness of RCEs, and by implication, the quality of examination *before* RCEs must be filed. It is important to note that PTA is *not* awarded for RCE delays caused by the applicant. Because applicants would stop tolling PTA credit after filing an RCE, time lost due to PTO delays in prosecuting RCEs is taken away from the patent term. The PTO would have no incentive for prompt prosecution after an RCE is filed. This could embolden the PTO in its reach for rejections, issuing lower quality and incomplete office actions, which the applicant must "take or leave" if he does not want to suffer additional uncompensated delay by filing an RCE. Thus, harm can befall applicants who do not even file RCEs. To some degree, as much as the PTO insists that RCEs are being abused, they keep the PTO honest. It is SBTC's opinion that this entire section of the law (H.R. 9 Section 9(e)) should not be included in any pending legislation and that Congress' original intent as ruled in *Novartis* be followed; as it is not really about PTA – it is about chipping-away at the statutory right in § 132(b) for continued examination to get the claims patentees need for protecting their inventions.

3. You also stated that you were in favor of the STRONG Patents Act of 2015. Please provide your rationale.

SBTC has previously come out in favor of the TROL Act.¹⁶ We have recently come out again supporting the TROL Act as being highly superior to H.R. 9 because it is narrowly targeted at the real problem.¹⁷ The STRONG Patent's Act of 2015 subsumes much of the language of the TROL Act, having all of the salient features of the TROL Act and none of the problematic features of H.R. 9 (or the prior H.R. 3309), or of previous Senate bills such as last year's S. 1720,¹⁸ S. 1612,¹⁹ S. 866²⁰, or S. 2049²¹. The problem with these prior bills is that they do little or nothing to solve any Troll problem, but in fact weaken patents by making them less enforceable. In general, they attack property rights. This will make America poorer and kill the American Dream. However, the STRONG Patents Act actually does something about Trolls, but does little to harm patent holders. Thus, we can support it.

4. In your testimony, you gave several provisions that you believed that the STRONG Patents Act lacked. Please expound on what else is needed in an environment for small businesses and independent inventors to assure invention can thrive.

Thank you for this opportunity to discuss how patents can be made stronger, not weaker. In my written testimony, I suggested the following

- Incorporating clarifying language into 35 USC 102 that would provide clear and reliable provisions to restore the one-year grace period. This historic protection recognized that exploration and experimentation are critical aspects of the innovation process, and that independent and small business inventors need time to test their invention and gather initial funding, prior to investing in a patent. This will ensure that public use and on sale activities less than one year prior to filing an application do not constitute a bar to obtaining a patent. Just in the last two weeks, a new bill has been proposed called the **Grace Period Restoration Act of 2015**. We thank you



Senator Vitter, as well as Senator Tammy Baldwin (D-WI), and United States Representatives Jim Sensenbrenner (R-WI) and John Conyers, Jr. (D-MI). This bill properly restores the disclosure and publication grace period but needs to be extended to fully restore the grace period for ‘on sale’ and ‘public use’ activities that are not “disclosures.” We look forward to working with you on this legislation so that the full grace period is restored in American law.

- Legislating a clear rule of law for patentable subject matter, thereby removing the immense judge-made ambiguity and uncertainty regarding eligible and ineligible subject matter will be very helpful. The recent *Alice* case²² and other judicial rulings^{23,24,25,26} have been invalidating new software and business methods patents. “They are now striking down these patents in record numbers and denying applications that would previously have been granted. It is basically open season on these patents.” “After *Alice* came down, some feared that almost all software-related patents would be held invalid. It looks like that is happening. Since the decision, district courts have uniformly knocked down those patents. But what may be more interesting is that business-method patents are going down in droves,” says Rochelle C. Dreyfuss, a law professor at New York University and co-director of the Engelberg Center on Innovation Law & Policy.²⁷ This has left inventors and the patenting community in a quandary,²⁸ which will reduce the number of patents, and overall innovation.

The reduction of patent royalties (which can be caused by rejection of patents both by the courts²⁹ or the PTO,^{30,31} or by artificial governmental constraints) will reduce the number of patents being issued, which will reduce wealth and economic growth.³² We have seen this in the past, that artificially reducing patent royalties reduces invention and new product creation. For example, the aircraft industry innovation after WWI was likely hindered by suppressing patent licensing royalties that the government initially justified by alleging that the Wright Aircraft Company was a mere patent troll.³³

It is the belief of the SBTC that legislation is required to overrule *Alice*, and encourage more innovation by allowing new valid patents to be issued in the software and business methods fields. Our members have spoken out previously on this by participating in an Amicus Brief to the US Supreme Court.³⁴ We believe this will promote investment and innovation by allowing inventors and investors to recoup their R&D costs. Software accounts for 15% percent of all gains in U.S. output. Invalidating software patents, quashing the industry (one of America’s fastest growing and most significant industries over the last decades³⁵) will not help America remain competitive. It is our belief that *Alice* may be one of the most destructive Supreme Court decisions ever, and needs to be legislatively overturned (or strictly clarified) as *Alice* will quell patenting, and thus stifle innovation and investment in the US.

- Providing greater elasticity for punitive behavior for small inventors and startup companies when they have acted in good faith but make honest mistakes when attempting to enforce their patents. Even the courts have trouble telling inventors the metes and bounds of terms like “abstract” and patent claims require parties to define the metes and bounds of every single word in a claim. Non-lawyer entrepreneurs should not be punished for making a mistake when drafting demand letters. The bill



should allow a small business or independent patent holder to simply cure ill-informed demand letters with a correction letter or have a telephonic hearing to correct their mistake, rather than starting an FTC investigation. Our issue is once something is in the regulatory (FTC) system; it might easily get out of control. Will a pattern and practice be defined as 100 letters? 10 letters? 2 letters? In the past, we have seen too many “bounty hunters” in the federal agencies with IRS, inspectors general, etc. The law should preclude that up front, by allowing a simple, non-punitive cure. It should not be one more nail in the coffin for small business inventors. The Burgess Amendment³⁶ on the Trol Act in the House requires small inventors to create procedures for demand letters when a small company may not be aware of the law. This gives infringers one more club to beat back naïve legitimate inventors.

- Extending the protections ensuring expedited procedures accorded in Section 111(c)(2) of the STRONG Act to small business concerns in order to also provide such expedited procedures for small business concerns that assert patents. This is another “goose and gander” provision which the recent patent laws have constantly provided favorable treatment to infringers, punishing inventors. (See the discussion on the Integrity Loophole above.) What we ask for is that both sides should have similar provisions to not penalize inventors, entrepreneurs, and the funders who invest in them.

Other additional items which were not previously included in my written testimony should also be included in any comprehensive patent legislation. The initial purpose of this new round of legislation was to make corrections to the America Invents Act. We therefore also suggest the following.

- Section 6 of the America Invents Act should be modified to change Section 311(c)(1) from 9 months to 3 months. An inter partes review should be initiated promptly. By allowing 9 months, patents are held in limbo, holding up funding by unnecessarily continuing a cloud on the patent’s title. Three months should be ample time for opponents of a patent to find newly issued patents, evaluate them, find prior art and file an IPR if appropriate. Dragging this out to 9 months is unproductive, and saps momentum from entrepreneurial companies. We believe that such a long time to initiate an IPR encourages delaying tactics, holding up the development of new technologies and the enforcement of new patents.
- Similarly, Section 6 of the America Invents Act should also be modified to change Section 311(d) for Post Grant Reviews from 9 months to 3 months. Again, this is a drag on the economy, used to delay and quell innovation, something the Congress should abhor.
- Section 17 of the America Invents Act should be repealed. Hiding behind the failure to obtain advice of council should not allow an infringer to avoid a finding of willful infringement. Also, Treble Damages should be clearly reinstated in the law for any willful infringer.
- Section 19 of the America Invents Act should be modified to repeal the section that relates to Section 299, Joinder of parties. Efficiency of the courts and of the parties should be optimized to allow proceedings to progress in the most efficient manner as approved by the courts. Repeating trials clogs the courts, and arithmetically increases the cost to parties who enforce their patents against multiple infringers. This can also



save infringers money by allowing them to allocate their common defense costs. SBTC believes the only purpose of this provision is to increase costs of companies trying to enforce their patents.

- Section 22 of the America Invents Act should be modified to allow the PTO to keep all of the fees collected from users (which were paid for the sole purpose of examining patents and operating the patent system).³⁷ This was discussed in the hearing on March 19, 2015.
- Continued expansion of additional Satellite Offices, as provided for in Section 23 of the America Invents Act should be encouraged.
- The Small Business Study required by Section 3(l) of the America Invents Act has still not been performed, almost 3 years after it was due. This should be the subject of a hearing or a letter by the Senate.
- Another correction to the America Invents Act should be the repeal of Section 4. This adds unnecessary paperwork to have inventors sign an additional oath as the application commences the national stage. This is redundant, and is particularly burdensome for small entities as inventors may longer be employed by the firm. Thus, the inventor needs to be tracked down and sign again for something that he has already sworn to. This provides no further validity to the patent application, but does add to the cost for little or no benefit. Again, the purpose of the legislation should be to improve the efficiency of the process.
- Legislation should be considered to return injunctions in patent cases to their prior status. The *eBay* case³⁸ has made courts more hesitant to enforce patents with injunctions. Reinstating the prior case law will encourage licensing, thus improving the value of patents and expediting the prompt negotiation of licenses.

5. Why is a secondary market for patents important?

This gets to the fundamental issue of alienable property rights (the right to sell property) and the role of intermediaries. A basic tenant of English law, of our Constitution, and the underpinning of the American economy is that the law protects private property and its lawful alienability. If you own property, you are allowed to sell it at the fair market value. (What would happen to the housing market if people were not allowed to provide clear title when reselling their houses? Who would buy? The market would collapse. If the buyer could not obtain good clear title when buying a used house, they only value they could achieve would be the value of the rental for the property for the use of the house until someone else seized it. If anyone could move in to any house at any time, property would be worthless, as the law would not protect the home owner.)

A similar concept applies to patents.³⁹ As in other property markets, specialized intermediaries are especially valuable in less established, less liquid markets—as markets for new or emerging technology certainly are—and in markets with significant information asymmetries and other transaction costs. For over a century, such patent intermediaries^{40,41} have provided important avenues for patent owners to keep control and coordinate investments and appropriate returns on their inventions. Like any other market for any other kind of good, there can be very little initial investment in innovation unless there is a secondary market, and like any other secondary market, this one requires specialized intermediaries, for realizing economic efficiencies. Without a secondary market, to be able to



sell patents to others including intermediaries (some of whom may be called “Trolls”), patents will lose value. This reduction in value will quell research and development, as investors will perceive a reduced value in conducting the R&D, and thus conduct less of it. This will impact the economy, causing fewer jobs to be created, and consequently less wealth for America.

Thus, a secondary market provides value to the economy. Polls show that we don’t like used car salesmen,⁴² probably because some act like “trolls.” Yet, a secondary market for cars provides a valuable service to the economy. Similarly, a secondary market for patents allows investors in entrepreneurial companies to recoup some of their investment if things don’t go as planned. Since 80% of the businesses fail in the first 18 months,^{43,44} it is important for most company investors to have a fallback position if things don’t work out. Since the patent is usually the most valuable asset of startup technology companies, having a way to liquidate the patent is extremely important to be able to raise money in the early stage of the company. Punishing the secondary patent market is punishing the American innovation economy. As with abusive used car salesman, the focus of anti-troll legislation should be upon the abusive actions of trolls, not the secondary market itself.

6. You mentioned large market-dominant players are pushing bills like H.R. 9. Do you believe there are anti -trust issues at play here?

Anti-trust violations by some of the proponents of H.R. 9 are beyond my knowledge base. However, by definition a market-dominant firm has the benefit of market share, position and strength, and will be aided by reducing the capability to challenge that dominance by potential newcomers such as innovators driven by new technologies (and patents). It will also have more capability to shift its workforce globally to wherever may be the lowest cost location.

As was pointed out in footnotes 51, 52, and 53 of my written testimony, there is data to show that Microsoft has a 93.4% Desktop Operating System Market Share, almost 17 times the 5.2% market share for Mac; Google has 88.1% of the global search engine market share, more than 21 times its nearest competitor at 4.13%; and Cisco had a 42.5% market share of the North American X86 Blade Server Market. This does tend to make the layman raise his eyebrows. The European Union (EU) has accused [Google](#) of abusing its dominance in web searches, filing formal anti-trust charges.^{45,46} There likely has been considerable findings of fact to come to their conclusion. Similarly, anti-trust charges have plagued Microsoft.^{47,48}

Perhaps it is time for the FTC to start to evaluate whether there are currently anti-trust issues with these large, market dominant companies. Are their anti-competitive actions hurting American consumers, and thus the economy? Only an investigation by the appropriate Government agency(s) can provide sufficient information to make that determination. It would appear prudent for the Senate to ask those questions.^{49,50,51} Any anti-competitive actions would be particularly harmful to small businesses that are trying to develop new technology, and are being thwarted by large market dominant companies. This will continue to cost American jobs and retard the startup of new businesses.

7. Why in your opinion would some manufacturers be supporting HR9 when you suggest it would be bad for the economy?

Some business models do not depend on patents. Most large incumbent firms do not need patent protection because of their sheer market power and strong sales channels. However,



new entrants with disruptive technology have none of these protections. Successful inventions invite predation by large market incumbents and patents are the only protection for such new market entrants. Those companies that do not invest much in R&D, or those who are using old technology and are fearful of being overtaken by newer better products, are threatened by new technology protected by patents.

For market dominant companies, there are only two ways that they lose their dominant position. Either someone bigger displaces them. Or, more likely, new disruptive technology overtakes them.⁵² The first condition is not a threat to the biggest firms. So, only patented new technology is a threat to them. By weakening patents, these large firms can stay dominant longer by simply adopting the technology of innovators as needed (infringing more freely) to neutralize the benefits of innovation and avoid being displaced by newer firms. Should H.R. 9 become law and as startups understand that this is the new American business model, investment in new technology entrepreneurs will wane, and eventually cease. Innovation will be displaced by sheer lowest cost manufacturing economics practiced by the market dominant companies, and jobs will further move overseas where labor cost is lower. That is why H.R. 9 is so pernicious, and dangerous to the American economy.

Let's look at the value of intellectual property to the economy. The total value of all American households is \$80.7 trillion.⁵³ The total value of intellectual property is about \$10 trillion.⁵⁴ Thus, one dollar out of eight of American household wealth can be attributed to intellectual property. This is why it is so important to protect IP and make sure we keep patents strong and enforceable.

8. Finally, what are the statistics that make you believe that protecting small business and independent inventors so important?

Small Businesses employ 37% of America's scientists and engineers⁵⁵ and 49% of private sector jobs. Data from the Bureau of Economic Analysis shows that startups and small companies have created 4.4 million domestic jobs in the decade ending in 2008 and during the same period, large multinational companies created 2.5 million *foreign* jobs while losing 1.7 million domestic jobs.⁵⁶ SBIR firms have received about 121,000 patents,⁵⁷

“Patents are far more important to small businesses’ survival than to large businesses, and small businesses create more American jobs than large businesses. Weakening patents costs America jobs. Further, licensed patents are the only way universities can commercialize their research.”



and small businesses create **16.5 times** more patents per employee than large firms.⁵⁸ And SBIR firms employ 7% of all of America's STEM workers.⁵⁹

While ostensibly aimed at curbing a small number and anecdotal instances of abusive patent litigation, the overbroad and sweeping proposed legislation in H.R. 9 will have the effect of suppressing patent rights of *all* patentees, and in particular, will hurt the small high-tech, job-creating SBIR businesses, and thus the economy.⁶⁰

Simply stated, Patents are far more important to small businesses' survival than to large businesses, and small businesses create more American jobs than large businesses.

Weakening patents costs America jobs. Further, licensed patents are the only way universities can commercialize their research."

SBIR firms receive a quarter of America's key innovations and create 58% more patents than all universities combined.⁶¹ SBIR firms employ scientists that have received 11 Nobel prizes, receive one in every seven VC dollars, and were involved in 1,866 Mergers and Acquisition deals.⁶² The Fortune 500 firms' share in generating key innovations has dropped from over 40% in the 1970s and early 1980s to just 6%. Large firms can and do survive without strong patent rights. Small businesses cannot. Weakening patent rights will threaten the very interests of universities and small businesses that Congress sought to protect in appropriating R&D funds, thereby undermining the taxpayers' important investment in research commercialization and domestic job creation. **Without strong patents, foreign interests will usurp American R&D and commercialize our efforts overseas.**

I would be happy to answer any additional questions or to provide input on any proposed legislation. Once again, I would like to thank you for giving me this opportunity to provide small business input to you. You may reach me at 216-374-7237 or by email at rschmidt@CleveMed.com.

Sincerely,
Small Business Technology Council


Robert N. Schmidt
Co-Chair

¹ http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2158395

² http://www.sbc.senate.gov/public/?a=Files.Serve&File_id=c221704-8083-4230-ae5e-88b6cc8598f7

³ <http://patentspostgrant.com/why-hedge-fund-ptab-filings-will-fail>

⁴ <http://ptolitigationcenter.com/2011/08/the-reexamination-center-executive-interview-chief-judge-paul-r-michel-part-1-of-3/>

⁵ <http://www.apfap.org/about.html>

⁶ <http://nsba.biz/leadershipcouncil/patent-reform-update/>

⁷ <http://sbtc.org/wp-content/uploads/2015/03/Letter-to-Senators-asking-them-not-to-sign-the-Sen-Warner-Patent-Letter-03-13-2015.pdf>

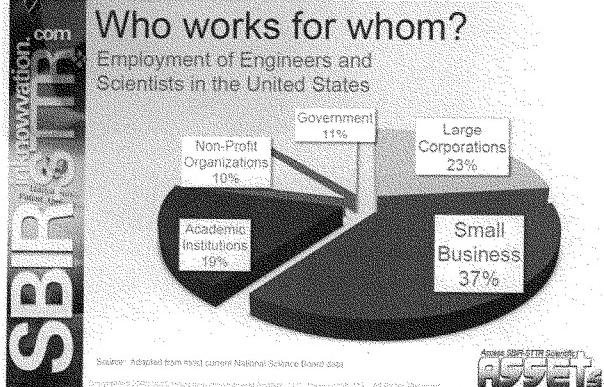


-
- ⁸ http://sbtc.org/wp-content/uploads/2014/04/Advocacy-Letter-to-Senator-Landrieu-3_12_14.pdf
- ⁹ <https://www.congress.gov/bill/113th-congress/senate-bill/1612>
- ¹⁰ <http://nvca.org/issues/patent-reform/>
- ¹¹ <http://nvca.org/?ddownload=1830>
- ¹² <http://nvca.org/?ddownload=1721>
- ¹³ <https://www.congress.gov/bill/113th-congress/senate-bill/866>
- ¹⁴ <http://sbtc.org/wp-content/uploads/2014/02/Letter-to-Office-of-Advocacy-regarding-Patent-Reform-2-13-2014-final.pdf> See Appendix 6.
- ¹⁵ *Novartis Ag v. Lee* 740 F.3d 593 (Fed. Cir. 2014)
- ¹⁶ <http://sbtc.org/wp-content/uploads/2014/07/SBTC-Letter-to-Speaker-Boehner-Supporting-TROL-ACT-7-22-14.pdf>
- ¹⁷ <http://sbtc.org/wp-content/uploads/2015/04/SBTC-Support-of-Trol-Act-4-22-2015.pdf>
- ¹⁸ <https://www.congress.gov/bill/113th-congress/senate-bill/1720>
- ¹⁹ <https://www.congress.gov/bill/113th-congress/senate-bill/1612>
- ²⁰ <https://www.congress.gov/bill/113th-congress/senate-bill/866>
- ²¹ <https://www.congress.gov/bill/113th-congress/senate-bill/2049>
- ²² http://www.supremecourt.gov/opinions/13pdf/13-298_7lh8.pdf
- ²³ <http://www.law360.com/articles/647055/2-container-monitoring-patents invalidated-under-alice>
- ²⁴ <http://www.lexology.com/library/detail.aspx?g=e61e14cc-ebdf-40cb-9e3d-d9e0d15aca01>
- ²⁵ <http://www.lawyerissue.com/computer-implemented-inventions-searching-for-certainty-in-the-wake-of-the-u-s-supreme-courts-alice-decision/>
- ²⁶ <http://www.therecorder.com/id=1202724316547/Citing-Alice-Judge-Squashes-IV-EmailSorting-Patents?slreturn=20150326194340>
- ²⁷ http://www.abajournal.com/magazine/article/business_method_and_software_patents_may_go_through_the_looking_glass_after
- ²⁸ <http://www.law360.com/articles/638936/5-burning-questions-about-patent-eligibility-post-alice>
- ²⁹ <http://www.jonesday.com/key-patent-law-decisions-of-2014-03-26-2015/>
- ³⁰ <http://www.uspto.gov/patent/laws-and-regulations/examination-policy/2014-interim-guidance-subject-matter-eligibility-0>
- ³¹ <http://www.law.com/sites/articles/2015/04/15/impact-of-uspto-guidelines-on-patent-eligibility-following-alice-corp/>
- ³² See Federal Reserve Bank of Cleveland, "Altered States: A Perspective on 75 Years of State Income Growth," *Annual Report 2005*. For more detail, see Paul Bauer, Mark Schweitzer, Scott Shane, *State Growth Empirics: The Long-Term Determinants of State Income Growth*, Working Paper 06-06, Federal Reserve Bank of Cleveland, May 2006, <https://www.clevelandfed.org/en/Newsroom%20and%20Events/Publications/Working%20Papers/2006%20Working%20Papers.aspx> and then Click on the PDF for WP-06-06 by Bauer *et. al.*
- ³³ Ron D. Katzenelson and John Howells, "The Myth of the Early Aviation Patent Hold-Up," *Industrial and Corporate Change*, forthcoming (2015). Available at <http://ssrn.com/abstract=2355673>
- ³⁴ <http://blogs.reuters.com/alison-frankel/files/2013/11/alicevcls-bancorpamicus.pdf>
- ³⁵ Robert J. Shapiro, "The U.S. Software Industry As an Engine for Economic Growth and Employment," September 2014, Sonecon. Software and the productivity gains it provides accounted for \$101 billion in production by other industries. Software accounted for 9.5 percent of all gains in U.S. output from 1995 to 2004, and 15.0 percent of those gains from 2004 to 2012. All told, the software industry in 2012 contributed \$526 billion to GDP -- \$425 billion + \$101 billion -- or 3.2 percent of GDP. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2541673
- ³⁶ <http://docs.house.gov/meetings/IF/IF17/20150422/103376/BILLS-114-DiscussionDraft-B001248-Amndt-1.pdf>
- ³⁷ <http://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule>
- ³⁸ <http://www.supremecourt.gov/opinions/05pdf/05-130.pdf>
- ³⁹ Adam Mossoff, "Patents as Property: Conceptualizing the Exclusive Right(s) in Patent Law," http://works.bepress.com/adam_mossoff/2/



- ⁴⁰ Naomi R. Lamoreaux, and Kenneth L. Sokoloff. *Intermediaries in the US Market for Technology, 1870-1920*. No. w9017. NBER, (2002); Allen W. Wang, "Rise of the Patent Intermediaries," 25 *Berkeley Tech. L.J.* 159 (2010). Available at: <http://scholarship.law.berkeley.edu/btlj/vol25/iss1/7>
- ⁴¹ Frank Tietze and Cornelius Herstatt, "Intermediaries and Innovation: Why they emerge and how they facilitate IP transactions on the markets for technology." *Technology and Innovation Working Paper No. 59.* (2009). Available at <http://ssrn.com/abstract=2118078>.
- ⁴² http://www.huffingtonpost.com/2012/12/03/car-salesmen_n_2231760.html
- ⁴³ <http://www.forbes.com/sites/ericwagner/2013/09/12/five-reasons-8-out-of-10-businesses-fail/>
- ⁴⁴ For a slightly different view of failure rates, see: <http://www.statisticbrain.com/startup-failure-by-industry/>
- ⁴⁵ [http://www.nytimes.com/2015/04/16/business/international/european-union/google-antitrust-case.html?r=0](http://www.nytimes.com/2015/04/16/business/international/european-union-google-antitrust-case.html?r=0)
- ⁴⁶ http://europa.eu/rapid/press-release_STATEMENT-15-4785_en.htm
- ⁴⁷ http://en.wikipedia.org/wiki/United_States_v._Microsoft_Corp.
- ⁴⁸ <http://www.wsj.com/articles/china-and-microsoft-agree-to-fair-and-cooperative-antitrust-investigation-1411947696>
- ⁴⁹ <http://googlemonitor.com/wp-content/uploads/2015/02/Googles-Anti-Conservative-Values-CPAC-Presentation.pdf>
- ⁵⁰ <http://gizmodo.com/5878987/its-official-google-is-evil-now>
- ⁵¹ <http://www.foxbusiness.com/technology/2014/01/17/why-google-really-is-evil/>
- ⁵² The telegraph replaced the Pony Express. Land-line phones overtook the telegraph. Cell phones have replaced land-lines, and so on.
- ⁵³ <http://www.wsj.com/articles/SB10001424052702303824204579423183397213204>
- ⁵⁴ IP-based business activities constitute approximately **55 percent of U.S. GDP**, and in 2011, IP-based assets were valued at about \$9 trillion. This can now be escalated by inflation to over \$10 trillion. See Kevin A. Hassett & Robert Shapiro, *What Ideas Are Worth: The Value of Intellectual Capital And Intangible Assets in the American Economy*, Sonecon (Sept. 2011) at 2, available at www.sonecon.com/docs/studies/Value_of_Intellectual_Capital_in_American_Economy.pdf

⁵⁵ Source: Ann Eskesen of Innovation Development Corporation



- ⁵⁶ Bureau of Economic Analysis, "Summary Estimates for Multinational Companies," BEA 11-16, Table 1, (Apr. 2011); US Census Bureau, BDS Job Creation/Destruction reports by firm size. <http://www.census.gov/ces/dataproducts/bds/data.html> (cumulative count for Small firms include those having less than 500 employees).



57 www.lnknowvation.com

⁵⁸ <https://www.sba.gov/sites/default/files/sbfaq.pdf>

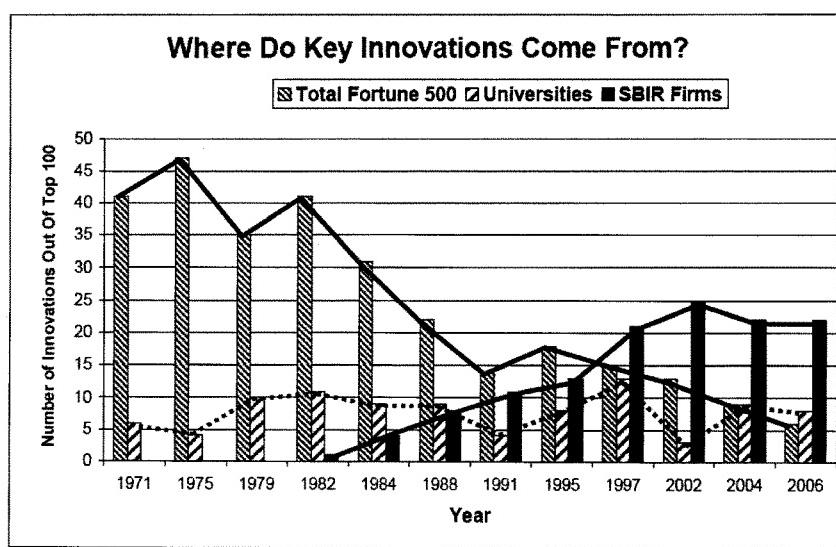
⁵⁹ Source: Ann Eskesen of Innovation Development Corporation.

Analysis of extent to which SBIR-STTR Awardees by State and overall are a factor in US STEM employment

State	Number of SBIR-STTR Awards	Calculated SBIR-STTR employment environmental innovation	UTRA Amts (2011 data)	# STEM employees working in SBIR innovations	SBIR job percentage of total STEM employment	Proportion of all SBIR STTR awards	SBIR job percentage of total STEM employment	
							Name	Name
AK	28	488	10,952	3,435	3.1%	0.1%	0.2%	0.2%
AL	251	11,202	79,700	14,576	18.4%	0.1%	1.1%	1.1%
AR	100	1,800	12,000	2,100	17.5%	0.1%	0.1%	0.1%
DE	378	6,890	123,954	5,867	4.7%	0.1%	1.6%	1.6%
GA	4,534	110,387	895,481	12,298	13.3%	0.3%	13.3%	13.3%
HI	742	12,200	181,347	7,209	8.8%	0.1%	2.4%	2.4%
IL	334	7,812	80,995	8,056	9.9%	0.1%	1.0%	1.0%
IN	1,436	24,300	24,300	8,449	34.8%	0.1%	0.5%	0.5%
KS	53	1,000	24,300	1,000	4.1%	0.1%	0.1%	0.1%
LA	357	6,883	294,372	6,506	2.2%	0.1%	2.2%	2.2%
GA	347	5,164	371,767	5,036	1.3%	0.1%	1.3%	1.3%
ME	98	1,818	22,188	5,886	26.9%	0.1%	0.3%	0.3%
MD	142	3,625	57,095	3,039	5.3%	0.2%	0.8%	0.8%
MA	563	7,073	265,726	7,209	2.7%	0.1%	0.7%	0.7%
MI	240	5,941	150,432	3,706	4.4%	0.1%	1.5%	1.5%
MS	38	879	64,069	1,539	5.9%	0.1%	0.3%	0.3%
MT	150	1,800	60,908	2,376	3.9%	0.1%	1.3%	1.3%
NC	1,297	2,514	24,295	2,509	10.4%	0.2%	2.0%	2.0%
NH	1,683	2,229	255,120	11,326	4.4%	0.1%	2.0%	2.0%
NJ	109	1,871	22,397	7,406	34.6%	0.1%	0.3%	0.3%
NM	967	10,253	231,143	4,439	18.9%	0.3%	3.7%	3.7%
NY	2,023	3,622	157,661	5,216	3.3%	0.2%	2.5%	2.5%
PA	36	705	31,655	2,026	6.4%	0.1%	0.6%	0.6%
PR	106	1,235	19,447	5,786	30.8%	0.1%	2.6%	2.6%
RI	915	7,693	108,958	4,256	38.7%	0.1%	3.7%	3.7%
SD	38	1,000	12,893	9,076	70.0%	0.1%	2.4%	2.4%
NH	160	4,575	26,045	2,252	8.6%	0.1%	0.8%	0.8%
NJ	674	16,762	226,823	7,436	32.7%	0.2%	3.2%	3.2%
NM	312	8,075	45,908	13,236	29.3%	0.4%	0.7%	0.7%
NV	65	1,209	31,548	4,807	15.4%	0.1%	0.7%	0.7%
Total	22,108	499,110	6,855,732	7.2%	6.2%	100%		

⁶⁰ Patents are critical to the success of SBIR Program participants. The Innovation Act makes patents harder to get and to keep, which will likely retard some companies from commercializing, thus causing them to be removed from the program. This is another way the Innovation Act will decrease company success and employment in the US.

⁶¹ [http://www.itif.org/files/Where do innovations come from.pdf](http://www.itif.org/files/Where%20do%20innovations%20come%20from.pdf)



SBIR firms receive about three to four times as many R&D 100 awards as Fortune 500 Companies, on a tiny fraction of the budget.

⁶² www.inknowvation.com



April 27, 2015
 Chairman Vitter
 Senator Booker
 Senate Committee on Small Business & Entrepreneurship
 Senate Hearing on Patent Reform: Protecting Innovation and Entrepreneurship

**Re: Hearing on Patent Reform: Protecting Innovation and Entrepreneurship
 held on March 19, 2015**

Dear Chairman Vitter and Senator Booker,

1) Root Causes of Patent Backlog: Funding or Structural?

Based on what we have experienced at Pixelligent and conversations I have had with numerous patent attorneys, I believe the root cause is a combination of both funding and structural challenges. From the funding standpoint, I would reiterate the point I made during the hearing that the PTO is one of the few agencies that is not only self-funded through the fees that it charges, but on average generates \$300M in excess of what Congress approves as its annual operating budget. Unfortunately the PTO is not permitted to retain these excess funds and reinvest them back into their operations to hire more staff and invest in more infrastructure. This is commonly referred to as the “Innovation Tax”. Whatever the justification is for allowing this redistribution to happen, it simply cannot be taking into account the tremendous economic cost of delaying the issuance of hundreds of thousands of US Patents. Perhaps GAO or a similar governmental agency could take on the task of trying to quantify the magnitude of lost value that occurs as a result of the “Innovation Tax”.

On the structural front, since 2012 the PTO has instituted a number of positive initiatives to accelerate the review process. The goals Under Secretary Michelle Lee outlined during her Senate confirmation hearing in December 2014 are clearly aimed at resolving a number of the structural and fundamental challenges required to begin reducing the backlog. However, one of remaining significant structural causes of the patent backlog remains the long pendency at the Patent Trial and Appeals Board. This means that for many applicants, an appeal is not an option because it takes too much time. As a result, the patent office is training examiners to “compact prosecution,” and applicants are often forced to re-file their cases.

In summary the core drivers I believe are contributing the most to the patent backlog are: (1) not allowing the PTO to reinvest the excess fees it generates; (2) not enough examiners, especially examiners reviewing utility patents; (3) not enough Appeals Administrative Law Judges; and (4) PTO procedures that constrain examiners on how much time they are permitted to spend on more complex cases, which means they have to force applicants to re-file and/or



appeal. (I would also like to clarify the backlog number I stated during the hearing; the 600,000 patents I referred to only applies to patents awaiting a first office action, the total number of patents currently in the review process, including appeals, is over 1.2 million.)

2) Appropriate period of time for USPTO to review patents

This is more difficult question to address as it depends on many factors including the complexity of the patent, the number of claims, prior art, the length of the patent, the field(s), and too many other factors to list. As I am not qualified to be a patent examiner, I would recommend that Congress ask Secretary Lee what she would be willing to set as an aggressive goal, assuming she were allowed to retain all funds generated by the PTO.

3) Legislative remedies to fix patent backlog

The first measure would be to end the "Innovation Tax" by allowing the PTO to retain all of the funds it generates from its customers/patentees. However, I also believe that Congress should work with Secretary Lee and her team to set more aggressive goals and then hold them accountable to achieve those goals in exchange for retaining the additional funds. In taking these actions, I believe Congress will be able to help accelerate the patent review process and unleash the enormous amount of innovation contained in over a million patents. The economic value and jobs created as a result will contribute to both the US economy and our competitive position in the global economy.

Respectfully,

Craig Bandes
President & CEO
Pixelligent Technologies

